Gulstonian Lectures
ON
THE LYMPHATIC SYSTEM AND ITS DISEASES.

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LECTURE I.—PART I.

MR. PRESIDENT AND GENTLEMEN,—In late years especial attention has been drawn to the importance of the lymphatic system by most histologists and pathologists, and I have therefore ventured to bring before your notice some of the more interesting points in its descriptive anatomy, since these bear with great significance on some of the chief pathological problems which are the subject of discussion at the present moment. Indeed, the lymphatic system has had but little notice taken of it since the time of the Hunters and Monro, and from the extravagant notoriety which it then attained it quickly passed into an opposite extreme of general neglect, from which it is now emerging. I have also been led to select this subject because, as an anatomist as well as a physician, I have always taken a great interest in it and its diseases, and because it is so rarely studied in its entirety as it deserves to be. A hasty generalisation that lymphatics are everywhere, and may be invoked to explain any unusual phenomena, too often takes the place of an accurate knowledge of their position and course, which are now in most situations as well defined and known as are the arteries and the veins. Moreover, it appeared to me, from the terms of the Gulstonian bequest, "that a body if possible be procured," that the anatomical basis of pathology was especially intended by him to be brought before your notice in these lectures.

The oldest physicians were well acquainted with the general fact of absorption. Hippocrates affirmed it most distinctly, Galen spoke of it in explicit terms, and the Arabian physicians utilised it for the exhibition of remedies. Hippocrates and Galen not only asserted that the whole body possessed this property, but specifically taught that it was performed by vessels (both arteries and veins), believing that the vessels were provided with open mouths for this purpose. The first notice of the lymphatic system, as we now know it, is due to the great Alexandrian anatomists, Erasistratus and Herophilus. As the lacteals are distended with a white milky chyle for three or four hours after a meal in which fat has been taken, and as many of the lymphatic glands are normally as large as a pea or a bean, and become very conspicuous if they are enlarged by disease, it might be anticipated that these would have attracted attention before the general lymphatic vessels, which only convey a transparent fluid. Erasistratus saw vessels in the mesentery of a young kid filled with a white fluid, and Herophilus recognised them as belonging to a separate system, as setting out from the intestine, proceeding to the attached border of the mesentery, and ending in glands between its folds. Erasistratus thought that these vessels were arteries, but Herophilus called them *nutrient veins*. Galen took but little notice of these observations, for he had seen a milky fluid in the mesenteric veins, and his theory that the digested food was absorbed by the radicles of these veins only was held, almost without a dissentient, until the seventeenth century. Nicholas Massa, in 1532, is supposed to have recognised the lymphatic trunks from the kidney, but his description is by no means clear. Fallopius, however, about the same time, undoubtedly saw some of the lymphatics of the liver, filled with a yellowish oily fluid, proceeding to the glands in the vicinity of the pancreas. In 1563 Eustachius described the thoracic duct as the *vena alba thoracis*. He says that "it started from the left subclavian vein, was full of a watery fluid, divided into two branches [a not uncommon anomaly], which afterwards re-united, passed through the diaphragm on the left side of the spine, and at the middle of the lumbar region terminated in a manner which is as yet unknown."

These scattered observations by the older anatomists were disregarded until the discovery of the lacteal vessels by Gaspard Aselli on the 23rd of July, 1622. He not only demonstrated the existence of these vessels, but also pointed out that they were the true absorbents of the chyle. He gave them the name of lacteals, and described their valves as well as their walls. His account of the discovery, "by chance rather than after reflection," he says, is so very interesting that you will excuse my relating it, although it is so well known. "At the request of several friends, I opened a fat dog which had eaten but a short time previously, and made some experiments on the recurrent nerves; then, wishing to see the movements of the diaphragm, I opened the abdomen, and having pushed aside the intestines and stomach, saw many threads, very white and very small, with numerous rootlets, scattered throughout the mesentery and the intestine. I at first thought that these were nerves, but soon saw that they were very different in appearance and course. Struck with the novelty of the observation, I remained silent for a moment, and ran over in my mind the controversies not less full of bitterness than of words which disturbed anatomists with regard to the mesenteric veins and their office. ..... To end my doubts I opened one of the largest of the white cords with a sharp scalpel, and at once saw exuding a white liquid of the nature of milk or of cream. At that sight, not being able to contain my joy, I turned to those who were present. 'Eureka,' cried I, with Archimedes, inviting them at the same time to look at a picture so marvellous and so unusual that they were also struck with astonishment. But we could not continue our observations for any time. The dog soon died, and, strange to say, at that moment all this series, all this mass of vessels, losing its whiteness and its juice, vanished so quickly and disappeared so completely that scarcely any trace was left." Aselli opened another dog, but failed to find the vessels. In a third experiment, the animal having been fed just before the examination, he again saw them. This discovery, second only in physiological importance to the discovery of the circulation of the blood, led to many disputes and controversies before it gained acceptance as an anatomical fact. Carl Hoffman laughed at it; Riolan said that the vessels were arteries; and Harvey defended the prevalent opinion that the chyle was absorbed solely by the mesenteric veins. Aselli was regarded as a visionary by most of his contemporaries. In 1626 he died, and, although he dissected many mammals, including a horse, and showed that they also possessed lacteals, he had no opportunity of examining the human subject, and so failed to perfect his observations. Between 1626 and 1630 many anatomists confirmed his researches, and in 1628 Gassendi saw the lacteals in a man who had been hanged an hour before he was examined. In 1634 Vesling also saw them in the human subject, and published the first sketch thereof, but it is not a very satisfactory one.

In Aselli's time the liver was supposed to be all-important in the conversion of the absorbed food into blood, as had been taught by Galen, and an erroneous view as to the termination of the lacteals was held even by Aselli. Following Andernac, he placed a large gland, which he called the pancreas, between the layers of the mesentery, although Vesalius, Columbus, and others, had previously pointed out that this was a mistake as far as man is concerned. He described the lacteals as going to this gland, and from thence either into the portal vein or directly into the liver. This error was removed by Jean Pecquet, who, on opening a dog in 1649, saw a fluid, white as milk, running from the vena cava into the pericardium, at the place from whence the right cavities of the heart had been removed. In his work, published in 1651, he thus describes his discovery: "I examined this white substance ..... opened the vena cava throughout, and saw that this substance, which had no taste, colour, or consistence, but that of chyle, which I had formerly squeezed out of the lacteals, came from the subclavian branches, where I found, a little above the jugulars, the holes by which the milky fluid entered the vena cava. ..... I put my hands on the mesentery of the animal, ... and had scarcely pressed when I saw the milk poured out quite pure from the two sources which I had noticed in the subclavians. ..... I continued to look for these lacteals in a number of dogs whom I opened for this purpose, and found them throughout the whole length of the vertebræ of the back, on the spine, beneath the aorta."

Pecquet next discovered and fully described the *receptaculum chyli*, which still bears his name, and saw the chyle flowing into it from the lacteals. Although he demonstrated the duct and its reservoir in many animals, yet he, like Aselli, was unable to make investigations as to their existence in the human subject. He, however, expressly mentions that he has no doubt of their presence. Contemporary anatomists, such as Bartholin and Van Horne, soon completed Pecquet's researches by discovering the thoracic duct in man and showing its connexion with the lacteals, and the course of the chyle was removed from all uncertainty. The portal vein lost its special position as the only absorbent of the food, and the liver could no longer be regarded as absolutely essential for the production of the changes through which the food passes before it is mixed with the blood-stream.

The systemic lymphatics were still unknown, and the few anatomists who incidentally mention any of them (as Vesling, who saw some in the neighbourhood of the pancreas) evidently confounded them with the lacteals. Pecquet's attention was exclusively confined to the latter, and he insists over and over again that there are no *vaisseaux lactés* in the limbs, head, or trunk, but only in the abdomen. On Jan. 27th, 1651, Olaüs Rudbeck discovered the lymphatics which pass from the liver to the receptaculum chyli, and in 1652 demonstrated them to Queen Christine of Sweden. He saw some of them enter the glands around the portal vein, and others proceed to the reservoir of the chyle and to the lacteals. He called them *vaisseaux hépatico-séreux*. He afterwards recognised similar vessels in the pelvis, the thorax, and on the surface of the lungs, and, inferring their presence in other parts, formed a new system of these *vaisseaux séreux*. This discovery of the systemic lymphatics is unfortunately marked by an angry strife between Rudbeck and Bartholin. There seems to be but little question that the honour of priority of discovery belongs to the former, although the latter had undoubtedly a fairly accurate knowledge of them, and saw them ramifying near the bladder, on the renal vessels, the suprarenal bodies, &c. He gave them the name of lymphatics.

Another claim to the discovery of the lymphatics has been put forward by Glisson, Charleton, and Bayle, in favour of Dr. D. Jolyffe, who, early in 1652, showed to Glisson vessels containing an aqueous fluid in nearly all parts of the body; but this demonstration is evidently later than the discoveries of Rudbeck and Bartholin. It would seem as if these three anatomists had discovered the general lymphatics quite independently and almost at the same time. The additions to the lymphatic system were very numerous during the next few years, but consisted merely in filling in its details. The most important researches were those of Steno, who very distinctly described the lymphatics of the right arm, lung, and thorax; of Ruysch, who carefully described the valves; of Nuck, who used quicksilver for injecting them, and described those of the heart, uterus, and kidneys; of Duverney, who saw some entering the bones; and of Drélincourt, who investigated them in the fœtus.

At this period anatomists were divided into two schools: the one, by far the more numerous, dividing the duty of absorption in the intestine between the lacteals and the veins; the other, headed by Bartholin, Diemerbroek, and Borellus, denying that any part of the food was taken up by the mesenteric veins. Venous absorption from the alimentary canal was still held by the most eminent anatomists, and even those who taught that the lacteals were the exclusive absorbent vessels of the intestine hesitated to apply the same reasoning to the systemic lymphatics. Glisson, however, a year or two after their discovery, taught that they arose from the cavities of the body and carried back the lymph which had lubricated those cavities. Frederic Hoffmann extended this doctrine to all parts of the body: "Revehunt vero omnia lymphatica ex universo corpore lympham suam ad capsulam lumbarem et chyliferum ductum in quam se exonerant." Most anatomists, especially Nuck and those who like him succeeded in injecting the lymphatics through the arteries, concluded that they merely carried back the fluid parts of the blood from such arteries as were too small to admit its coloured particles, and hence they looked upon them as accessory small veins.

Dr. Alex. Monro (secundus) and Dr. Wm. Hunter showed the fallacy of these injection-experiments, and the latter soon taught that the veins had nothing to do with absorption, and that this was effected solely by the lacteals and lymphatics. This view was firmly held by his brother and by his pupils, Hewson and Cruikshank. At first, however, Professor Monro did not adopt so exclusive a view, and was not disposed to deny the occurrence of venous absorption, although he attached every importance to the lymphatic system. The facts which he could not set aside were the observation of a white fluid in the mesenteric veins not only by Galen, but also by de Bils, Swammerdam, and Van Horne, the passage of spirits of wine from the intestines into the veins as affirmed by Méry, and of water as stated by Boerhaäve. He also urged that lymphatics were absent in some parts, as in the placenta. But the experiments and arguments of the Hunters, Hewson, and Cruikshank were considered so conclusive that the terms lymphatic system and absorbent system became synonymous until the time of Magendie. These experiments were:—1. The veins of the intestine were emptied and ligatures applied to their roots; milk was then placed in the intestine, which was returned into the abdominal cavity; no absorption of milk took place by the veins, whilst the lacteals were filled with it. 2. Similar experiments without ligatures, but in which pressure was used, led to the same result. 3. Starch-and-water coloured blue by indigo, and a solution of musk in water, gave no evidence of being absorbed by the veins; the first was certainly, and the second apparently, taken up by the lacteals. To such direct experiments Dr. Wm. Hunter added the analogy in structure of the lacteals and lymphatics, the mode of entrance into the system of the venereal poison, and other pathological observations.

In 1820 Magendie published his experiments on venous absorption, and these at once showed that the Hunterian view was too exclusive. He successively mixed with the food of dogs diluted alcohol, solution of camphor, decoction of rhubarb, and solution of ferrocyanide of potassium. After a short time the animals were killed, but none of these substances could be detected in the chyle, whereas they were all found in the venous system. Venous absorption from the intestines was even more conclusively proved by the well-known experiment in which nux vomica poisoned a dog in six minutes after its introduction into a loop of intestine which was only connected to the body by an artery and a vein. Systemic venous absorption was demonstrated in like manner by introducing upas tieuté into the paw of an animal and poisoning it, when the only medium of communication with the body was by means of quills so placed between the divided ends of the femoral vessels as to replace the artery and vein. From these observations Magendie concluded that, with the exception of the chyle which was taken up by the lacteals, all absorption was due to the venous radicles; and so he formulated a theory in absolute antagonism to that of William Hunter, and quite as exclusive. The truth here, as is so frequently the case, lies between the two extremes. Hunter's experiments prove clearly enough the fact of lacteal absorption, but do not disprove the possibility of the veins sharing in the same office; whilst those of Magendie demonstrate venous absorption, but do not necessarily exclude the participation of the lymphatics in this function. The solutions employed by Hunter—such as milk and diluted starch—were colloids, and therefore unable to pass through animal membranes, which explains readily enough why they were not detected in the veins; whilst those which were used by Magendie were not liable to this error, although when he selected them he was quite unaware of the cause of Hunter's fallacious reasoning. Another series of experiments by Tiedemann and Gmélin show very conclusively that both sets of vessels are concerned in the process. Having mixed a large number of different substances with the food of animals, they found that colouring matters generally passed out of the system without being taken up by either the veins or the lacteals; odorous matters were usually detected in the venous blood, whilst salines were discovered in both the blood and the chyle.

These demonstrations show clearly enough that absorption from the intestinal cavity is not exclusively performed by either the bloodvessels or the lymphatics. The bloodvessels absorb everything that can pass through their walls mechanically or by the physical property of osmosis; whilst the lacteals not only take up the chyle, but other substances also, for Colin found both iodide and ferrocyanide of potassium in the thoracic duct in eighteen minutes after their administration. The present position of the relative importance of the lacteal and venous system in the absorption of the products of digestion is clearly placed before us in the following summary by Dr. Michael Foster:—"The great

mass of the digested (i.e. emulsified) fat passes into the lacteals. Since, however, the portal blood contains more fat than the general venous blood, some of the fats must pass through into the portal capillaries. The portal blood, moreover, during digestion contains a small but appreciable quantity of soaps. Neither in the portal blood, nor in the chyle, nor in the general blood during digestion, is there any appreciable quantity of peptones. ..... It must therefore be left uncertain what becomes of the peptones formed during digestion, and which way they travel. We know, however, that artificially-formed peptones are available for nutrition; thus Plósz and Gyergyai found that dogs fed on peptones and non-nitrogenous food actually put on flesh and gained weight. The chyle contains no large amount of sugar; and though, contrary to statements so frequently made, sugar may undoubtedly be found after meals in the portal blood, we are not at present in a position to say whether sugar is absorbed chiefly by the portal system or chiefly by the lacteals." Systemic lymphatic absorption needs no other proofs, in the present day, than the enlargement of the glands in cases of local poisoning from syphilis or dissection wounds, and is daily brought into requisition in the hypodermic administration of medicines.

The dispute between Dr. Wm. Hunter and Dr. Monro as to the discovery of the functions of the lymphatic system, gave a great impetus to its study, and to this we are indebted for many important researches, not only by these anatomists, but by the illustrious John Hunter, Hewson, and Cruikshank. Their investigations were carried into comparative anatomy as well as into every part of the human body. Hewson showed for the first time that the lymphatics were not limited to mammalia, but existed throughout the vertebrate sub-kingdom, whilst Cruikshank minutely and most accurately described and figured them in man. About the same time the elder Meckel also described them very fully. The nerve-centres and the special organs of sense were the only parts in which the lymphatics had not been traced, but this hiatus was due to the extreme difficulty of the investigations rather than to any doubt of their existence in these organs. The descriptions of the lymphatics in the cranium by Collins, Marchetti, and Ridley, are very imperfect, and Pacchioni's account is obviously incorrect. Monro seems to have once, in the skate, succeeded in injecting some of them with coloured fluid, which passed into and stained the tunics of the eye, the ear, and the arachnoid. In 1787 Mascagni published his classic work, in which he not only revised the labours of his predecessors in this field, but recorded the results of the dissections of a lifetime. To his magnificent illustrations subsequent anatomists are mainly indebted for their descriptions of this system.

The mesenteric glands were noticed by the Alexandrian anatomists, by Celsus, Marinus, and Galen. Eustachius very fairly described their naked-eye appearances, and Rufus pointed out that similar structures existed in the neck, axilla, and groin. Aselli followed some of his predecessors into mistaking a number of glands fused together in the mesentery for a single gland, which he called the pancreas, notwithstanding that the true pancreas was well known long before his time. He traced the lacteals to this gland, but Pecquet incidentally mentioned that the mesenteric glands were isolated and not congregated together as Aselli had described them. The arrangement of these glands is very different in the various species of animals: in the cat the fusion of them, forming the pancreas Aselli, is well seen. In 1660, Sylvius de la Boë named these glands *conglobate* glands, and so separated them from the secreting glands with which they had been confounded. The anatomists who attempted to unravel their intimate structure were divided into two camps; some followed Malpighi, in the view that they contained distinct spaces or acini, whilst others supported the opinions of Ruysch and Albinus, who held that they were composed of a network of vessels only. The facility with which injections pass through a lymphatic gland from the afferent to the efferent vessels evidently led to the latter idea; whilst the former was strenuously maintained by those microscopists who examined uninjected specimens.

Since the discovery of the lymphatic system, and the demonstration that most, if not indeed all, lymphatic and lacteal vessels pass through one or more of these glands, much discussion and interest have naturally arisen with regard to their function. Bartholin thought that the mesenteric glands were of use in preparing the chyle for absorption. Wharton and Glisson had a confused idea that their office was to separate a nutritive juice from the nerves for the nutrition of the tendinous or white structures of the body, and that this juice was carried everywhere by the nerves, whilst the efferent lacteals carried the surplus to the common receptacle. The observations that the glands are large in young animals in proportion to the size of the body, that they are smaller in the adult, and still less in size, firmer in texture, and that much less juice exudes on section in old age, led to the opinion that they both delayed the passage of the lymph and chyle, and added something thereto, and that this, in the case of the chyle at least, served to dilute that fluid before it mixed with the blood-stream. To Hewson is due the great merit of first showing that this juice contained corpuscles, resembling in size, shape, and reaction the nuclei of the blood-corpuscles (Hewson is speaking generally of the blood of birds and frogs, and not of the mammalia), and that the lymphatic glands were therefore one of the sources of origin of the blood-discs. He attributed similar uses to the thymus and spleen. On his observations rests all the modern pathology of the relation between diseases of the lymphatic glands and the changes in the blood and system generally.

CASES OF CEREBRAL TUMOUR ILLUSTRATING DIAGNOSIS AND LOCALISATION.

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(Concluded from p. 329.)

CASE 2. *Epileptoid attacks, with visual aura, ceasing under treatment; death, with subacute cerebral symptoms, after a fall; large tumour of right occipital and parietal lobes.*—Alfred S——, aged thirty, married. One brother had suffered from fits. Venereal disease denied; no history of constitutional syphilis, personal or marital. The patient stated that he was well until two months before he was first seen (April, 1878), when one morning something seemed very brilliant before him, "as if he had a polished plate on his breast." He felt giddy, but did not fall; he sat down, bathed his head, and was better, but afterwards felt extreme pain in his eyes, "as if they were bursting." Subsequently he had slight attacks, almost daily, of the following character. "A pain commences in the neck, goes across the head, comes down between the eyes, and is felt on each side of the bridge of the nose. If walking, the road or path seems to get narrower and narrower, so that he hardly knows where he is going, and simultaneously his sight fails; he feels with a stick to see if he is not getting off the path. The pain at the top of the head and in the eyes is something awful, and the eyes seem to throb. The loss of sight is not complete; he can only see just before him; nothing on either side; but he can generally see better to the right than the left." During the three days before he was first seen, at the commencement of the attacks, as the sight was going, he had a flickering of light, "like a gold serpent," in the eye, moving in all directions very fast; seen with both eyes he thought, but more before the left eye than the right. The pupils were equal. Acuity of vision normal. I thought that there was a very slight defect in the left field on the temporal side, but I could not, even on very careful examination, be sure of it.

He was treated with bromide and belladonna, and the attacks ceased, except that once or twice he had a slight flickering before the eyes. He had, however, several attacks of pain on the top of his head, coming on suddenly, and he often had pain at the back of the neck. He was seen repeatedly during the next three months, and continued free from attacks.

Five months after he was first seen (as I subsequently learned) he had a fall, and afterwards most severe pain in the right side of the head, just above the right eyebrow, darting through the head. His manner became altered, and his speech confluent, words being run together. He also

had delusions, fancying that persons were in the room who were not. He then became comatose for a day or two, and died.

A post-mortem examination was very kindly made for me by Dr. Henderson, of University College Hospital (the patient having died in the country). Dr. Henderson's report was as follows:—"Dura mater normal; surface of brain pale; convolutions flattened. Base of brain, and arteries and nerves, normal. Membranes opaque over locus perforatus, but no lymph. Left hemisphere normal on surface and section. In the right hemisphere, the occipital and posterior part of the parietal lobes are the seat of a growth.

FIG. 1.

FIG. 2.

FIG. 1. Diagram of outer surface of right hemisphere.
FIG. 2.—Diagram of inner aspect of right hemisphere.
In each the shaded portion indicates the position of the growth.
(From a diagram by Dr. Henderson.)

On the outer surface this involves the first and second occipital convolutions and the superior and inferior parietal lobules, and on the inner surface the cuneus and half of the precuneus. It projects into the lateral ventricle at the junction of the posterior and descending cornua, and, overlapping the thalamus, has indented it, causing a depression two centimetres by three, without adhesion. On section, the corpora striata and optic thalami appear normal. The growth has no sharp limitation; it is adherent to the pia mater. Its section is pinkish-grey and somewhat gelatinous, dotted with vascular points, and containing in the centre a spot of hæmorrhagic infiltration two centimetres by three and a half. There was no caseation or margin of induration. The rest of the brain was normal, except that the right posterior quadrigeminal tubercle was a little softer than the left. The growth had the structure of a sarcoma."

Remarks.—This case presented, when first seen, symptoms much more like those of idiopathic epilepsy than of organic brain disease. There was a family history of fits. The attacks began with a visual aura, not uncommon in epilepsy, and ceased under bromide and belladonna. Headache was—such as sometimes occurs in epileptic seizures—paroxysmal. There was no permanent affection of sight. I was so unable to convince myself that there was an actual limitation of the field of vision that I dismissed the idea. There was no optic neuritis. The significance of the symptoms, taken together, was strongly in favour of epilepsy. The graver symptoms of organic disease which came on after the fall were suggestive rather of chronic meningitis than of tumour. Possibly optic neuritis may have come on after I ceased to see the patient, but it was absent as long as he was under observation.

The large tumour which was the cause of the symptoms was situated in a position in which the ordinary symptoms of tumour are often latent. The case is, with one exception, of little value as regards the positive symptoms of tumour in this region, since the patient's later symptoms could not be ascertained. The absence of hemiplegia, however, is in accordance with the position of the tumour—behind the motor region. We do not know in what spot the growth commenced, and therefore can infer little from the absence of any loss of sensation during the early stage of the case. The tumour was in the "sensory region" of the brain, and the paroxysmal symptoms were acute pain and a transient disturbance of vision. The latter is of great interest, because the tumour had invaded part of the angular gyrus, in which Ferrier's experiments on monkeys have led him to localise the sense of sight, and the visual aura may certainly be associated with the disease in this region.[1]

The character of the aura is also of interest, especially if we can rely upon the accuracy of the patient's very intelligent description. At first there was apparently an over-action of the centre—a bright light; afterwards paroxysmal defective action, due to temporary exhaustion or inhibition, shown in the narrowing of the field of vision. The apparently greater narrowing on the side opposite to the diseased hemisphere may have been really as described, or may have been a transient hemiopic defect. The former is the more probable, on account of the clear and circumstantial description, and also because it was associated with a transient change in the acuity of vision.

The object before him (the path) appeared to become further off, narrower, and indistinct. We may correlate the early discharge with the subsequent arrest of function; but the early discharge was wide-spread, as a large brilliant area. If the subsequent arrest of action was equally wide-spread, we are led to the supposition that the discharge which affects central vision much may lead to an inhibition which affects central vision little, and hence that it is the degree rather than the position of interference with the action of the centre which determines the position of the affection of function. We have of course no ground to assume that there is any superficial representation of the field of vision in the centre in correspondence with the field itself.

The apparent recession of the object during lowered function is in harmony with the apparent approach of an object during discharge, which is often described by epileptics. A bright light will appear to get nearer and nearer, until consciousness is lost, just as a pain or a noise will get more and more intense. This means probably that the more extensive discharge (not *necessarily* superficial extension) produces the same effect on the centre as does an increase in the area of the retina on which an image falls. In arrest of function, the converse process takes place. The stimulation of the less sensitive centre, by the image of the path, became so much alighter as to produce the effect of a diminution of the area of the retina stimulated, and hence the path appeared to recede.

The affection of both eyes, greater on the side opposite to the diseased hemisphere, is noteworthy. The association of the two visual centres is no doubt exceedingly intimate. Of not less interest is the acute pain felt in the eyeballs after the paroxysm, as evidence of a very intimate central association between common and special sensation on the organs of special sense, the physiological utility of which will be obvious enough on a little consideration.

CASE 3.—*Subacute cerebral symptoms; paralysis of both auditory, right sixth, and partial of right facial nerves; general weakness of limbs; optic neuritis; hyperpyrexia; tumour in front of and involving corpora quadrigemina.*—Robert P——, aged twenty-four, unmarried, a police-constable, admitted into University College Hospital on July 30th, 1878, with subacute cerebral symptoms. No family history of nervous disease, of phthisis, or of tumour, and no personal history of syphilis could be obtained. The head symptoms with which he was admitted had come on after several days' exposure to hot sun, to which they were ascribed. It was, however, afterwards ascertained that he had complained of headache to his brother a month previously. Severe headache, and mental dulness, with paralysis of one sixth nerve, were the symptoms on admission. The pain in the head was apparently general, and not sufficient to prevent him from dozing most of the time. His attention was aroused with difficulty, and he sometimes answered questions, sometimes did not appear to understand them. There was no delirium, convulsion, or paralysis of limbs, no affection of special senses. The right external rectus was paralysed, but not completely. Other movements of the eyes were free, and the pupils equal. It was impossible to ascertain the degree of vision; he tried to read any type that was given to him, but closed one eye, as if

[1] According to Ferrier's diagrams of the centres of the human convolutions, the tumour would appear to have destroyed a large part of the visual region. Up to the last, however, no permanent affection of sight attracted the notice of the patient or his friends. I think that it is open to question whether the course of the sulci of the human brain has not induced Ferrier to carry the visual centres farther back into the occipital lobe than accords with their general position in the monkey.

there were diplopia. There was no fever; bowels constipated.

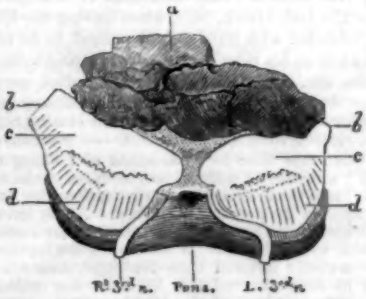
This state continued with little alteration. He was at first under the care of my colleague, Dr. Poore, and came under my care on August 12th. It was then impossible to obtain any answers to questions from him, although he did what he was told. During the next three or four days, however, he gradually became deaf, first partially, but, in the course of a week, absolutely. An ophthalmoscopic examination showed the existence of double optic neuritis, moderate in degree, equal in the two eyes. The outline of the disc was obscured, except on the outer side, where it could be faintly traced; elsewhere it was lost under a swelling, of a reddish-grey colour, striated, and extending a little beyond the limits of the disc. The veins were moderately distended, curving down the sides of the swelling, and obscured for a short distance at its edge. The arteries were considerably narrower than normal, and could be traced on the surface of the disc with difficulty. There was a good deal of white tissue about the centre of the swelling at the point of emergence of the arteries and accompanying them; one artery, passing upwards and outwards, lay in the middle of a broad white tract, which extended nearly to the edge of the swelling. Below the centre of the disc a white area lay in front of and partly concealed a vein, while an artery which passed in front of the vein was not obscured; on the inner and lower edge of the disc was another small white spot. The other eye was quite similar in general characters.

These symptoms continued with very little change. About the 20th of August, first retention, and then incontinence, of urine came on and continued. The pulse, previously normal, became infrequent (50 to 60). On August 24th his temperature, previously normal, rose to 100°, and continued to the end of the month varying from 99·5° to 101°. The swelling of the optic discs became more considerable, the veins forming a greater curve over the sides of the swelling, but there were no hæmorrhages. Two or three white spots, irregular in shape, were visible in the retina, just beyond the edge of the swelling, on the outer side, above and below. A trace of albumen appeared in the urine; no sugar. From this date the patient was in a state of almost constant semi-coma, and the elevation of temperature was greater, varying between 102° to 104°. He was observed also to move his limbs very little, but there was no loss of sensation to pain; when either arm was pinched it was moved, and the features expressed pain. The right side of the face was, however, moved much less than the left, and was evidently paralysed, chiefly in the lower parts, just as in the facial paralysis of hemiplegia. Observations on the pupils were unfortunately interfered with by the previous application of atropine. His pulse became frequent (90 to 100) and irregular. The paralysis of the sixth nerve was the same; no other oculo-motor paralysis could be discovered. On Sept. 7th the temperature was 104·6°, but on the 8th it rose to 106°; râles were heard throughout the chest; and he died, apparently from exhaustion.

Necropsy.—A sarcomatous tumour was found lying between the posterior portions of the optic thalami, above the crura cerebri, and in front of the corpora quadrigemina, which were invaded and otherwise damaged. The tumour was lobulated and irregular in shape, and measured an inch and a half transversely, and three-quarters of an inch from before backwards. From its middle a long pedunculated process of growth extended backwards above the tentorium cerebelli. It measured an inch and a half in length, and about half an inch in its greatest width, the base being about a quarter of an inch wide. No trace of the pineal gland could be found, and this pedunculated growth appeared to have formed in it. The tumour had invaded the corpora quadrigemina, destroying the whole of the left anterior tubercle and the inner half of the right, extending a little below the level of the iter. (Fig. 4.) Backwards from this point it extended a short distance only along the iter. The right posterior tubercle was normal; the left flattened by pressure. It had damaged a little the most superficial fibres of each crus cerebri, the left much more than the right. (Fig. 3.) It had not damaged, although contiguous and adherent to the inner surfaces of, the optic thalami. Slight traces of meningitis were found beneath the orbital lobules, but not elsewhere. No damage to the nerves at the base could be discovered. The ventricles were distended.

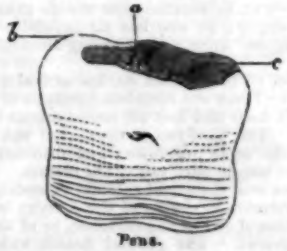
Remarks.—The onset of this patient's symptoms after exposure to a hot sun, and their subacute character, led to a frequent bedside discussion of the question whether they were due to chronic meningitis or to tumour. Always, against the theory of meningitis, were the facts that there was no history of acute onset, and that the symptoms pointed to the base of the brain as the seat of the disease rather than to the region—the convexity—in which the meningitis of insolation commonly occurs. The ophthalmoscope did not help us, because, although neuritis was present, it was moderate in degree, the swelling being slight. It was such neuritis as is met with in chronic meningitis. Curiously enough, the necropsy showed that although there was a tumour, there was also slight—very slight—meningitis contiguous to the optic nerves, and the microscope revealed changes in the nerves, proving that the neuritis was really "descending." The case illustrates the need for caution in assigning too much weight to exposure to the sun as a cause of cerebral symptoms, should they come on after such exposure.

FIG. 3.



Section through the crura cerebri, seen from before. The tumour conceals the corpora quadrigemina. The highest layer of the tegmentum is seen to be damaged in the outer part, more on the left side than on the right.—*a*, Tumour. *bb*, Superior cerebellar peduncles. *cc*, Tegmenta of crura. *dd*, Crustæ of crura.

FIG. 4.



Section through the anterior quadrigeminal tubercles—the point of their greatest invasion by the growth, which has destroyed the left and part of the right. Viewed from before.—*a*, Position of iter. *b*, Right anterior quadrigeminal tubercle. *c*, Tumour invading left anterior quadrigeminal tubercle.

The most noteworthy symptom in the case is the paralysis of the auditory nerves. The sixth nerve was probably damaged by pressure. Paralysis of the sixth is of less value than that of any other cranial nerve, on account of its exposure to pressure by its course over the most prominent part of the pons. As regards the auditory nerves, no lesion of the trunks could be found to explain it. They were perfectly normal, and there was no trace of lymph or of pressure. A possible explanation may be that the paralysis was due to the damage to the most superficial fibres of the tegmentum of the crus cerebri. If these contain the fibres from the auditory nerve, the symmetrical paralysis would be explained, since the most superficial fibres of each were damaged. The point is mentioned as worthy of attention in any future cases of the kind.

COLLEGE OF PHYSICIANS, IRELAND.—There will be no course of scientific lectures delivered this year at the College; but it is probable they may be resumed in 1880.

NOTES OF A

CASE OF INJURY OF THE SPINAL CORD, AND RESULTING PARAPLEGIA, TREATED BY THE ACTUAL CAUTERY.

By Surgeon-Major JOHN ANDERSON,
Army Medical Department.

The following case is of interest as regards—(1) the severity of the lesion of the nerve-centre without discoverable fracture or displacement of its bony protection; (2) the long duration of the lesion; and (3) the treatment and its result.

Private G. C——, of the Inniskilling Dragoons, was admitted to the Station Hospital, Piershill, Edinburgh, on July 9th, 1877; having, immediately prior to that date, been nearly four months under treatment in a hospital in Dublin. On the 14th March, 1877, when leaving the Riding School, his horse fell with him, and the animal, in its efforts to rise, first knelt on his rider's loins, then, getting entangled in reins, belts, &c., fell a second time and rolled over his rider. In so doing the high cantle of the military saddle was pressed heavily on the man's spine in the lumbar region. On being extricated from the *mêlée* G. C—— was conveyed to hospital. At this time he complained of nothing more serious than "a feeling of stiffness and soreness in the small of the back," and the ordinary local applications for contusions were applied to the seat of injury. About ten days after the accident, *and not until then*, the patient noticed a numbness and want of power in the lower limbs, the left being more severely affected than the right, and about a month later he first observed that his urine was voided involuntarily. The paralysis of the bladder and its sphincter came on gradually, the first symptom being that of incontinence during sleep; then followed sudden, uncontrollable desire to micturate, even when the bladder contained but a small quantity of urine; at these times, unless the urinal was within reach, the bedclothes were wetted, showing that strong efforts of the will failed to exercise any retaining power. After this the patient lost all sense of the condition of the bladder—i.e., he became quite unable to say whether it was full or empty; he also lost all expulsive force, and sometimes imagined urine was dribbling from him when it was not.

The condition of the patient on his arrival at Piershill was as follows:—There was complete paralysis of the lower limbs; the left limb had lost all sensation, and the right one nearly all. The paralysis of the vesical sphincter was complete, and the urine overflowed and dribbled from the patient. There was no paralysis of the rectum. There was acute tenderness over the spinal column, extending from the fourth dorsal vertebra to the tip of the coccyx; but no fracture or dislocation of any of the vertebræ, or of the sacrum, could be discovered. The general health was not very seriously affected; there was some debility and loss of flesh, and some anxiety and sleeplessness. Beyond these there were no noteworthy general symptoms.

To complete the history of the case as briefly as possible, I make the following short extracts from the case-book.

July 18th, 1877.—The actual cautery was applied to the most painful part of the spinal column, on each side of the spinous processes, to the extent of eight inches in length, and two lines in breadth.

Aug. 8th.—Sensation in the right lower limb improved.

12th.—The cautery repeated. Wounds of first operation healed.

16th.—Spinal tenderness has much decreased. Sensibility of right limb has further improved, and there are some signs of returning sensibility in the left limb.

21st.—Sensation is restored to both limbs, more perfectly so in the right than in the left. Patient can move the toes and ankles a little.

27th.—Has some control over the sphincter of the bladder.

Sept. 6th.—Cautery applied for the third time.

7th.—Urine dribbled from the patient while sleeping during the night; but in waking hours yesterday, after the operation, micturition was almost entirely a voluntary act.

10th.—Micturition is now entirely under control during waking hours. A little urine still escapes when the patient is asleep.

26th.—Sensibility is now perfectly restored to both limbs. Muscular power and control over the muscles are rapidly increasing. Some urine still escapes during sleep.

Oct. 5th.—The cautery was applied for the fourth time to-day, but only to the extent of four inches, and in a single line over the tips of the spinous processes.

6th.—On my entering the ward this morning the patient addressed me as follows: "It's made a great difference in me this time, Sir; my legs are a great deal warmer, and they tingle like pins and needles."

25th.—From this date the patient had perfect control over his bladder, sleeping or waking.

Dec. 10th.—Has made little or no progress lately. Application of cautery for the fifth time.

11th.—The "tingling" and warmth is again present in both lower limbs. Can raise the limbs a few inches from the bed.

Jan. 15th, 1878.—Cautery applied for the sixth time.

18th.—Motor power in affected limbs has distinctly increased.

30th.—Slight cautery, at urgent request of the patient, was applied to-day.

Feb. 5th.—Is able to sit up in an easy chair.

March 1st.—Has progressed rapidly during the last three weeks; sits up daily; can stand without assistance.

23rd.—Can walk across the ward with crutches and a little help from the orderly. The left limb drags behind its fellow.

April 17th.—Walked on his crutches into the hospital enclosure.

June 2nd.—Can stand easily; can walk with the help of a stick only.

29th.—Discharged from hospital. To go on furlough for two months.

August 30th.—Rejoined his regiment from furlough. Can now walk two or three miles without even the help of a stick, and without fatigue. Has gained flesh and strength, and general health is excellent.

Oct. 28th.—For the last two months Private G. C—— has been doing "light duty." He desires to be transferred to the Army Hospital Corps; for, though anxious to remain in the service, he does not feel he has "nerve" for the mounted duties of a dragoon. He is so fully restored to health and strength that I have to-day been able to certify as to his fitness for service at home or abroad.

Remarks.—At the time this case came under my observation, no trace of fracture or displacement of the spinal column could be discovered, and, from all the earlier particulars I am able to obtain, never was discoverable. Mr. Hutchinson, in a clinical lecture published in London Hospital Reports, vol. iii., p. 360, says that inability to discover irregularity of the vertebræ is by no means unusual, even when the cord has been severely injured, and he explains that the bones may spring back by their own elasticity and that of the intervertebral substance.

As to the question of compression of the cord from effusion, Mr. Hutchinson opposes the view, and argues that there are no large arteries to be injured, and a crush is not likely to cause much bleeding. On the other hand, Mr. Erichsen, at pp. 36 and 37 of his work on "Railway Injuries," records three cases in which a large quantity of extravasated blood was found, post mortem, between the spinal cord and its membranes. Save by the hypothesis that some effusion did result from the injury inflicted by the accident, it seems difficult to account for the long interruption of nerve function that occurred in this case; and I think the fact that the symptoms were relieved and eventually disappeared under a treatment calculated to excite and promote absorption favours this view. I am not acquainted with any written advocacy of the treatment of such cases by the actual cautery, and my adoption of it in this case is due to my having had the good fortune to hear Professor Lister speak of it with emphatic approval in a clinical lecture he delivered in the Edinburgh Royal Infirmary shortly after Private G. C—— became my patient. The satisfactory result that attended the treatment in this instance, I venture to think, renders the case worthy of record.

With regard to catheterism in these cases there seems to be a difference of opinion among surgeons. In this case the urine was not in a single instance drawn off by the catheter, and, as far as the evidence of one case goes, it is here in support of those surgeons who disapprove of such interference. No cystitis or other complication of the urinary

organs supervened, and all risk of irritation of the urethra, formation of false passages, &c., was avoided. Mr. Hutchinson, in the lecture already quoted, opposes catheterism, and says, "In almost all cases the bladder fills without causing discomfort, and then runs over." Such was the state of matters in the case of G. C——, and catheterism was avoided as an unnecessary and a possibly mischievous interference. As a matter of course the patient was on an air-bed, and all bedding and clothing unavoidably wetted by the dribbling urine was promptly removed. No bedsore complication arose during the treatment. Galvanism was used for several weeks, but without apparent result; and the same may be said of such nervine tonics as quinine, iron, phosphorus, and, in the later stages, strychnia.

I must not omit a tribute to the patience, intelligence, and "pluck" of the patient. He seconded every step in the treatment, and bore the pain of the cauteries with more than ordinary fortitude. He objected to chloroform.

Royal Military College, Sandhurst.

TREATMENT OF FIBROID TUMOURS OF THE UTERUS BY ERGOTINE SUPPOSITORIES.

By ROBERT BELL, M.D., F.F.P.S.G.,

PHYSICIAN TO THE GLASGOW INSTITUTION FOR DISEASES OF WOMEN AND CHILDREN.

THE immense benefit resulting from the subcutaneous injection of ergotine in uterine fibroids has been so often demonstrated that we now look upon the drug as the most potent agent we have in the medical treatment of such tumours, and yet there are many objections to its use by means of the hypodermic syringe. First among these is the tendency to suppuration in the neighbourhood of the acupuncture, and when the operation requires to be repeated twice a week this is no small disadvantage. True it has been said that if the needle is insinuated into the muscular tissue, this evil result is avoided, but I must confess this has not been my experience. Then the operation is attended with an amount of pain which is not inconsiderable, and when we bear in mind that the subject of uterine disease is generally in a highly nervous state, this resulting from the fact that her uterus is diseased, there is as a consequence a great repugnance on the part of the patient to undergo what to her sensitive nature is magnified into an operation twice a week, with its sequela of an abscess in each instance. To avoid the unpleasantness of using ergotine hypodermically I have for some years had recourse to suppositories, each containing four grains of the drug; one of which is introduced every night; and, with a view of illustrating the beneficial effects of the remedy used in this way, I have taken three cases at hap-hazard, which I will briefly record.

CASE 1.—Mrs. G——, Saltcoats, Ayrshire, sent for me in May, 1875. She was suffering from what appeared to me on a hurried examination to be acute retroflexion of the uterus, but on passing the sound it became quite evident that what I had at first mistaken for the fundus of the uterus was a fibroid tumour. The uterus was lying in its normal position; was not more than the usual length, but it was exquisitely sensitive; and on the posterior aspect there was, protruding towards the rectum, an interstitial fibroid occupying the posterior wall of the organ. The presence of the tumour, taken along with the metritis which accompanied it, had induced great prostration of body, and a low morbid condition of the mind of the patient. To such an extent had the weakness proceeded that the lady was unable to leave her bed for more than a few minutes at a time, and walking always brought on excruciating pain after a few steps had been taken. She was ordered suppositories, containing two grains of ergotine in each; one to be introduced every night. In three weeks she was able to walk about with considerable freedom, and in two months was able to come to Glasgow, when I found that the tumour was very much reduced in size, and the general health of the patient exceedingly good. This was the first case in which I had given a fair trial to the ergotine suppositories; but it was a matter of regret to me that I had not used four grains instead of two grains in each. Latterly the strength of the suppository has been doubled, and I find that the result is not only more speedy, but much more satisfactory in every way.

CASE 2.—Mrs. S——, from Dumbarton, came to consult me in consequence of metrorrhagia, which had produced extreme anæmia. The uterus measured four inches and a half, and at the fundus there was a fibroid tumour. The above treatment was pursued, but each suppository contained three grains of ergotine, and iron was given in large quantity. The treatment was persisted in with slight intermissions for fully six months, at the end of which time the uterus had attained nearly its normal dimensions, and the tumour had almost disappeared, the menses again resuming their natural periods.

CASE 3 is perhaps the most interesting of all, as the relief obtained was so speedy and so complete. The patient eight years ago fell from a height of six or seven feet whilst swinging on an ordinary child's swing. This gave way, and she was precipitated on her back, whereby the uterus was displaced backwards. From the date of the accident she has been more or less lame, the pain while walking always being located in the sacral region. About eighteen months ago she fancied the abdomen was swollen, she experienced a feeling of fulness in the pelvis and a difficulty when at stool. On examination I found the uterus to be acutely retroflected, and the fundus was very much enlarged, quite to the extent of a pregnancy of two months. The contour of the tumour was quite regular. I suspected a fibrous polypus, and, with a view of bringing this into the vagina, a suppository containing four grains of ergotine was ordered to be used every night, irrespective of any bloody discharge from the uterus, as this was both frequent and copious. This treatment was pursued for three weeks, when the tumour was expelled. It presented the appearance of a fibroid undergoing decomposition, but there was no smell indicating putrefaction. Studded over the surface of the mass were large areas of fatty deposits, and the whole tumour was in a state of fatty degeneration. The subsequent treatment of the patient consisted in passing the sound and rectifying the position of the uterus twice a week, and introducing behind the organ a plug of cotton saturated with glycerine. This was done for four weeks, after which I introduced a Hodge's pessary, and now the patient expresses herself as feeling perfectly well.

I would urge all who would employ ergotine in such cases, or indeed in any disease, to be sure that they are being supplied with a good article, or, I need hardly add, disappointment will most certainly follow. This caution is the more necessary, as ergot of rye is so often supplied to the trade which, when examined, is found to be absolutely useless as a medicinal agent. We cannot, therefore, be too careful in our selection of the drug, nor too particular in our investigation of the efficiency of each individual sample.

Glasgow.

ON CASES OF PARADOXICAL TEMPERATURES.

By HORATIO DONKIN, M.B. OXON.,

SENIOR ASSISTANT-PHYSICIAN TO WESTMINSTER HOSPITAL; PHYSICIAN TO EAST LONDON HOSPITAL FOR CHILDREN.

I PUBLISH the following remarks chiefly as a sequel to the report of a case of remarkably high temperature that appeared at some length in THE LANCET of May 11th, 1878, in view of the interest of the subject involved, and of the fact that several cases somewhat similar have either been published or come under my notice since that time. I shall, at first, briefly recall the leading facts of my case to which I allude, and give its further progress up to the present time, referring, as a supplement, to cases seemingly showing similar phenomena; and shall call attention, in conclusion, to the considerations of clinical importance and physiological interest which would appear to arise from the establishment of these facts.

My patient, who is a nurse at the East London Hospital for Children, aged nineteen, on recovery from enteric fever of less than average severity, had at frequent intervals a temperature of 108°, 110°, occasionally rising as high as 111° F., or over. Relatively to these temperatures, the

following facts seemed to be established, proof of which is offered in my first paper, to which I make reference :—

1. The high temperatures were generally unaccompanied by any discoverable constitutional symptom other than a feeling of flushing, or rushes of heat, described by the patient. Although the patient has had from time to time up to the present occasional disorders, which will be mentioned hereafter, no organic lesion, other than the uterine displacement to be described, revealed itself to physical examination, nor has there been an obvious abnormal sign of any constancy, except a greater or less rapidity of breathing. On one occasion, at least, however, it was remarked that coincidently with the high temperature the pulse was 102, and that the skin felt very hot to the touch. From the evanescence of the high temperature, such an observation was rarely attainable; but this much may be said for certain, that the general health of the patient during the long period of the frequent recurrence of high temperature was very little removed from the normal, so far as careful observation and frequent examination could detect.

2. *The high temperatures were of a very short duration.* A second observation, taken immediately after the registration of a high degree, generally showed a falling or even a normal temperature. I would here particularly refer to my previous paper as substantiating this statement, both because the apparently *rapid cooling* is perhaps the most paradoxical fact of the case, and in view of the special importance here of excluding the possibility of imposture, suspicion of which was given rise to by this very evanescence of the phenomenon in question, and careful experiment made accordingly.

3. The temperatures were not only those of *localised* regions of *skin*, as several of the higher degrees were taken in the mouth. On one occasion, two thermometers placed one in each axilla registered over 107°.

The frequent recurrence of high temperatures continued in this case from the beginning in January, 1878, till, as already related, the patient left the Westminster Hospital, where she had been under my care for some time, at the end of March. The high temperature had been of less frequent occurrence for a short time before leaving. On returning to her work as nurse at the Children's Hospital, she made no further complaint than that of a slight pain in her back. She was amenorrhœic, but her general appearance was healthy. On April 8th she had an evening temperature of 102·4°, and 99° a quarter of an hour afterwards. Between that time and the 25th of April there was often noted a temperature of 105°, and occasionally it rose to 107° or 108° and over. The patient now began to complain of pain in abdomen, frequent sickness, and occasional puffiness of ankles. Once or twice a slight cloud of albumen was found in the urine. The œdema did not continue. On the 18th of April examination of uterus by Dr. Fancourt Barnes showed retroflexion and displacement of left ovary.

From the 20th of May to the 20th of June the readings from what I have called the maximum thermometer (i.e., one kept fixed in the axilla) every morning andevening varied between 106·8° and 101·8°, generally being over 103°, and frequently over 104°. The temperature taken in the axilla in the ordinary way, the thermometer being carefully watched and noted at the time, was most often normal, but frequently as high as 100° or 101°, and on some occasions 102·5°, 103·2°, and 103·6° respectively. (These facts would appear to show that the high temperatures were still evanescent.)

From the end of June to the end of July the patient was left unobserved for the most part as regards temperature. She continued to do her work, and was unwilling to give in; but, becoming more anæmic, and suffering from loss of appetite, frequent sickness, shortness of breath, headache, and lassitude, she was at last persuaded to take rest again. Dr. Robert Barnes kindly offered to take her into his ward at St. George's Hospital for treatment of the uterine affection. While there, from the 30th of July to the end of October, she improved greatly in all her symptoms, although, as I shall presently detail, renewed thermometric observation showed a continuance of paradoxical temperatures. On August 3rd Dr. Barnes replaced the retroverted uterus, the patient being under chloroform, and applied a Hodge's pessary. On Sept. 20th the pessary was removed. On Oct. 22nd, the patient appearing quite well, Dr. Barnes examined the pelvis once more under chloroform, and found the uterus natural, but prolapse of the left ovary still existing. During the time of the patient's residence at St. George's Hospital she menstruated twice, the first occasion being immediately after the insertion of the pessary. The catamenial period was again missed in October.

As regards thermometry, the temperature was taken in St. George's Hospital in the ordinary way, morning and evening, no observation being made with the maximum thermometer till Oct. 16th. It is remarkable that the temperature gradually rose from 99·6° on July 31st, to 104° on Aug. 3rd, the day of the insertion of the pessary, after which date, till Sept. 27th, there was no registration less than 100°, and only four times as low as this point. The temperature generally ranged between 101° and 104°, but on several occasions went up to 105°. On Sept. 28th a temperature of 99° was registered, but it rose again gradually to 104° on Oct. 1st, about which time the expected catamenia did not occur. From this time to her returning once more to her work at the Children's Hospital, the temperature varied between 98° and 103°. Observation with the maximum thermometer was kindly made for me by Dr. Blake, of St. George's Hospital (to whom I am indebted also for the above account of the patient's residence there), between Oct. 16th and 24th, showing four maximum temperatures of 101·8°, 102·4°, 103·2°, 103·6°, between 10 P.M. and 10 A.M., and two maximum temperatures of 103·6° and 104·8° between noon and noon of Oct. 22nd and 23rd, 23rd and 24th. The patient has been at her work since the end of October, and though no observations have been made with the maximum thermometer, ordinary registrations have discovered no very notable rise of temperature. Menstruation has not returned, and the patient complains frequently of headache. Her breath is still somewhat short and rapid on any exertion, and altogether she does not appear so well as while she was in St. George's Hospital. She is, however, anxious to continue her duties, and is regarded by the lady superintendent as one of her best nurses. I may mention here that quite lately I have had a list of temperatures taken by the patient herself, showing every now and then a rise to 100° or 101°, but not higher.

Soon after publishing the notes of this case in THE LANCET of May 11th, 1878, I received the following account of a patient in the Bristol Royal Infirmary from Dr. Greig Smith, the medical superintendent, who has kindly permitted me to quote it :—"The temperature in our case," Dr. Smith says, "never exceeded 108°, but in five or ten minutes after such a registration, 99° has, times without number, been recorded. The patient, an unmarried and very pretty milliner, aged nineteen, was admitted with symptoms of gastric ulcer, and during treatment by enemata developed the pyrexia; a week afterwards she had severe menorrhagia, with distinct tenderness over both ovaries. The hæmorrhage ceased after the administration of bromide of potassium and ergot, but the ovarian tenderness continued for about three weeks. All along she had some tenderness in the epigastrium and occasional vomiting, and all this time she had the hyperpyrexia—about 107°. The temperature was taken every three hours, and at extra odd times every day, as a stranger wanted to see for himself. The hyperpyrexia extended from Feb. 23rd to April 12th. At first we treated her vigorously with quinine, cold bathing, and Roberts' coil. This, however, was stopped, as it seemed to have no effect, and as she did not seem to suffer at all from the fever, going on with her knitting, &c., as if she was quite well. In the beginning of April she seemed quite well, in spite of evening temperatures of 102°, and on June 4th she left. All along we had the greatest difficulty in managing her. She rebelled against the continuous thermometry, objected to vaginal examination, &c., and altogether was mistress of the situation. We had great difficulty in keeping her in the house as long as we did. In a general way the behaviour of her temperature was thus: Morning 106°; evening 107·5°—108°; with uncertain variations between. The peculiarity was that it was nearly always a medical man who got the normal temperature a few minutes after the very high one, and very seldom the nurse. This, of course, made us suspect that she manipulated the thermometer somehow, but afterwards we satisfied ourselves and others that there was no such deceit, and took effectual means to prevent anything of the sort in future. The nurse in charge (a most trustworthy one) used to say the medical man 'frightened down the temperature,' and if we could translate this into medical terminology, I could hardly think of a better term. Outbursts of temper always raised it, and the appearance of any of us rather frightened her, and seemed to depress it. When we could get it registered in rectum or mouth, we simply got confirmation of

what we found in the axilla." Dr. Smith adds that on one occasion, May 12th, he registered himself 104°, and ten minutes afterwards 99°. The patient very frequently complained of "hot flushes," and often looked flushed at the time of high temperatures.

Before quitting this case I append a quotation from a recent communication from Dr. Smith, showing the means taken to substantiate these apparent facts, in view of their great abnormality, and the justifiable scepticism which must be exercised before admitting them.

"To make sure that the patient did not cheat us I had recourse to the following devices:—

"1. A thoroughly trustworthy nurse put the thermometer under the patient's axilla, and held it there for five minutes with one hand, while the other confined the patient's arm.

"2. It was taken as often as the patient would permit in the rectum. (It is curious that once having been taken in the rectum by the nurse, and giving a high result, it should have read low when taken by me in the same place, a quarter of an hour afterwards.)

"3. Two thermometers were frequently used at the same time, one in each axilla, or one in axilla and one in mouth, the nurse the while keeping a hand on each thermometer.

"4. Many other medical men, strangers, and critics, have taken the temperatures with their own thermometers, and with every caution, and have found high temperatures (as well as low), while the girl seemed apparently well.

"5. I myself have on several occasions got high temperatures while the thermometer was held in my hand or where it was continually under my eye; and where there was *certainly* no tampering with it.

"All the while the patient was evidently anxious to be up and at work, and latterly she did so in spite of us. She was told that as soon as the temperature got down she might get about; if she had had any intention of deceiving, it should have been in the way of *lowering* the temperature."

(To be concluded.)

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

CASE OF ATHETOSIS; DEATH FROM PHTHISIS; POST-MORTEM EXAMINATION.

(Under the care of Dr. STURGES.)

FOR the following interesting notes we are indebted to Mr. William Murrell, M.R.C.P., medical registrar.

H. B——, a tall, thin, gaunt-looking man, a clerk, aged thirty-three, was admitted on Jan. 25th, 1877, in an advanced stage of phthisis. He had for years been afflicted with athetosis. His family history was good, with the exception that one brother had died of consumption. When patient was about three years old he had whooping-cough, and soon after two fits. Respecting these fits he was able to give no definite information, except that they left him paralysed on the left side. He gradually gained power in his limbs, but the improvement was slow, and when seven years old he could do but little for himself, and was so helpless that he had to be drawn about in a cart. By the age of ten the paralysis had disappeared, and he could run and play about as well as other boys. The athetosis made its appearance soon after the fits, and gradually increased in severity as the patient regained power in his arm. On reflection he was inclined to think that the inco-ordinated movements had not changed much during twenty years, but if there had been any change it was for the better. He stated he had always been very regular and temperate in his habits. He never at any time had incontinence of urine or fæces.

The movements referred to were confined to the left side, and almost exclusively to the upper extremity. They were continuous and involuntary. When the hand was extended with the palm downwards, the index and middle fingers were slowly and gradually flexed, the ungual phalanges being first bent, then the middle, and finally the proximal. The thumb was also adducted, and either closed over the first phalanx of the index finger, or passed under the index and middle fingers, so that the ungual phalanx protruded between the middle and ring fingers. The hand was then supinated, the fingers again extended and the thumb abducted. Pronation of the hand completed the cycle. This was the type of the movement, but it was subject to some variation, and there was at times great irregularity. When the fingers were flexed considerable force had to be exerted to extend them, but the forcible extension did not increase the subsequent involuntary movements. Patient had always to keep his nails short, or they would indent the palm of the hand. He was able by a great effort to partly control the movement, but his power in this respect was very slight. On requesting him to close his hand, the fingers being at the time extended, he was unable to do so, and the effort, although directed exclusively to the left hand, often resulted in the unconscious closure of the right. The only time the hand was really quiet was during sleep. The movements were ordinarily so constant and so little under the control of the will that the patient was not able to use his left hand for any of the ordinary purposes of lifting; even his food had to be cut up for him. On testing his manipulative power, it was found that he was just able to lift a quill pen, but that he could not grasp a pin, even when the point was stuck in the table. The movements were perfectly painless, and produced no sense of fatigue. They were not increased by attention being directed to them, nor by any ordinary amount of voluntary muscular movement.

A few years ago patient was recommended to exercise the arm by occasionally lifting a twenty-eight pound weight, and this he found often temporarily intensified the movement. The movement was always increased by worry and trouble, or when he got "flurried" or "upset about anything." Sometimes he overslept himself in the morning, and had to hurry to his business, and this always made him worse. Pleasurable excitement was without any effect. Patient was a theatre-goer, and was fond of playing cards; but these amusements, he said, "never hurt the arm." Smoking kept the hand quiet; it seemed to "ease his mind" and to "sooth it." He was on this account a great smoker, and often on a Sunday afternoon smoked as much as an ounce of the best shag, with, he said, benefit. Tea and coffee in no way affected the movement. A warm bath quieted the movement as long as he remained in the water. He never took cold baths. There was no loss of sensation in either hand. Irritation of the palm with a feather increased the movement when the stimulus was applied to the affected hand, but had no effect when applied to the other. As already stated, the movements were almost exclusively confined to the left hand. Patient said that occasionally his left leg exhibited a somewhat similar condition. This was rarely observed, and only when he was thoroughly tired out with a long walk, and even then it seldom lasted more than half an hour.

The muscles on the posterior aspect of the forearm were much more wasted than those on the anterior aspect; the supinator brevis could not be felt, but the supinator longus contracted well; the extensor ossis metacarpi pollicis and the extensor primi internodii pollicis were the only extensors which stood out prominently, and they evidently acted as flexors of the wrist; both the flexor and extensor carpi ulnaris adducted the hand, and both were to be felt, the former the better; the extensor secundi internodii retained considerable power of contraction; the extensors of the fingers acted very slightly; the extensor carpi radialis longior and the extensor carpi radialis brevior were not visible; on the flexor aspect the palmaris longus and the flexors carpi ulnaris and radialis acted well; there was very little use in the small muscles of the thumb, but the flexor longus pollicis acted well; there was voluntary power of pronation, due to the pronator quadratus, which was small, and to the pronator teres; the flexor sublimis and flexor profundus acted well; the interossei were much wasted. The urine was normal in appearance, free from deposit, sp. gr. always about 1020, no albumen, no sugar.

The phthisis gradually progressed, and patient died on March 19th, the immediate cause of death being diarrhœa and exhaustion.

Necropsy, thirty-six hours after death.—(Present: Dr. Sturges, Dr. Allchin, Dr. Gowers, and others.)—Rigor mortis marked; no post-mortem congestion; great emaciation and pallor of skin. Calvaria rather under than over normal thickness; no local thickenings; dura mater not more than ordinarily adherent; halves of skull symmetrical; dura mater of normal appearance externally; no grittiness of sinuses or vessels; large veins over posterior part of pia mater distended by partially coagulated blood; blood in vessels contained considerable quantity of air-bubbles; Paccionian bodies numerous along posterior part of longitudinal fissure, none in front; no undue thickening of meninges; from three to four drachms of clear serum escaped on removing dura mater. Brain: The whole right hemisphere distinctly smaller than the left, about three-quarters of an inch shorter; the two parietal lobes, viewed from above, were nearly equal, but the frontal lobe on the right side was considerably narrower than on the left; the posterior half of the middle and inferior frontal convolutions, and to a slighter extent the superior frontal and ascending frontal, were distinctly smaller on the right side than on the left. There was a distinct difference also between the anterior portions of the frontal convolutions on the two sides, although this was slighter than in the posterior portions. The occipital convolutions on the two sides were nearly equal, but those of the parietal lobes were distinctly smaller on the right than on the left. There was a depression on the anterior portion of the temporo-sphenoidal lobe about one inch from before backwards, leaving about three-quarters of an inch of the apex unchanged. There was a deep depression extending backwards into the lobe, about three-quarters of an inch deep, and bounded by somewhat atrophied convolutions, on the surface of which some of the white substance of the brain appeared. No difference in size was to be observed between the two halves of the cerebellum; the orbital lobule, like the rest of the right hemisphere, was a little smaller than the left; the right anterior pyramid was very conspicuously smaller than the left. The arteries at the base appeared to be perfectly healthy. Further examination showed that the convolutions of the island of Reil were apparently normal, but there existed on the inner side a deep excavation between the anterior extremity of the perforated spot and the convolutions, extending backwards as far as the level of the corpora albicantia, and extending forwards between the convolutions of the island of Reil and operculum as far as the anterior surface of the hemisphere. Close to the anterior surface of the hemisphere the fissure was three-quarters of an inch deep, and its total length appeared to have been two inches and a half. The sides seemed to have been in apposition, except outside the perforated spot, where the cavity was about a quarter of an inch wide; and its roof was formed by radiating fibres spreading upwards from the pons—probably those of the external capsule. On the inner edge of this fissure the outer root of the olfactory nerve was seen crossing backwards to the temporo-sphenoidal fissure. Ventricles opened: On examination almost the whole of the right corpus striatum appeared to be destroyed—at least that portion in front of the optic thalamus. The posterior portion of the nucleus caudatus outside the optic thalamus was unaffected. A small portion of the inner part of the corpus striatum near the middle also appeared intact, but the whole of the grey substance was destroyed, so that there was only a membranous septum separating the cavity of the ventricle from the deep fissure which has been described. This septum consisted of a double membrane, and in it were seen a number of strands of white fibres, apparently belonging to the internal capsule. The optic thalamus seemed to be quite healthy. No naked-eye change detected in the cord.

SUSSEX COUNTY HOSPITAL.

EPITHELIAL CANCER OF THE RECTUM; EXCISION; RECOVERY.

(Under the care of Mr. WILLOUGHBY FURNER.)

THE following operation, for the notes of which we are indebted to Mr. Cunliffe, was similar in many respects to that performed by Mr. Harrison Cripps at the Great Northern Hospital, which was recorded in our "Mirror" on August 31st, 1878.

Mary M——, aged sixty-four, pale and lean, was first seen on Oct. 16th, 1878, when she complained of constant severe pain in the lower part of the bowels, accompanied by a discharge of blood per anum.

On examination, externally there was no sign of disease, but the finger passed into the rectum came upon a hard, knotty, uneven mass, occupying the left wall of the bowel, commencing about half an inch within the margin of the anus; it extended thence about two inches up the bowel, not quite reaching the middle line posteriorly, but passing that line anteriorly; the surface was very sensitive, and bled freely on manipulation; there were no appearances of secondary deposits.

The patient stated that until two years ago she was quite well; from about that time she noticed a discharge of blood from the rectum; this was continuous day and night, accompanied with constant and very severe pain.

There appeared to be a promise of a good result after removal of the growth. Accordingly, on October 26th, the patient having been prepared for the operation, a sharp-pointed bistoury, introduced into the rectum, divided the wall of the bowel in the middle line down to the coccyx. With a scalpel a second incision was made between the external and internal sphincters, beginning from the coccyx behind, and ending beyond the anterior portion of the disease. By dissection in the ischio-rectal fossa the diseased mass was freed from its connexions here. Next, the rectum was carefully dissected from the vagina, and higher up from the peritoneum, which was seen during this part of the operation. The bowel, being thus free from its connexions in front, behind, and on the left side, the left half was drawn out through the anus, and the benzoline cautery was used to burn through the wall of the rectum clear above the diseased mass. Four catgut ligatures were applied to branches of the inferior hæmorrhoidal artery, and the edge of the bowel was attached to the edge of the incision by two stitches in front and by one behind. On account of the deep cavity left in the ischio-rectal fossa, it was thought best to leave the bowel free at the side. No dressings were applied.

The immediate result of the operation was to afford complete relief from the former severe pain, a feeling of soreness only remaining, which passed away in twenty-four hours. The patient recovered without any complication, and with perfect action of the sphincter. She left the hospital well in all respects at the end of seven weeks.

Under the microscope the epithelioma was seen to be of the cylindrical variety.

With the view of obtaining more rapid healing, Mr. Furner was desirous of completing the operation with the knife only; but upon making a small transverse incision through the coats of the bowel, there was so much general hæmorrhage that it was thought expedient to use here the benzoline cautery. The first incision through the bowel in a longitudinal direction was followed by very little hæmorrhage.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Congenital Disease of Aortic and of Pulmonary Valves.—Disease of Skull in Congenital Syphilis.—Cranio-tabes.—A Peculiar Affection of the Palms and Soles.—Malformation and Disease of Ureter and Bladder.—Perforation of Lung in Pneumothorax.—Viscera from a Case of Poisoning by Sulphuric Acid.—Cancer of Pericardium.—Rodent Ulcer.

THE ordinary meeting of this Society was held on the 4th inst., Mr. Jonathan Hutchinson, President, in the chair. The number of specimens shown was unusually large, and the specimens of varied interest, those giving rise to most discussion being a series showing disease of skull in congenital syphilis, by Dr. Barlow, being the first time attention has been drawn in this country to these changes described by M. Parrot, of Paris.

At the next meeting Dr. Dickinson will open a discussion upon the subject of Lardaceous Disease.

Dr. PEACOCK showed a specimen of Congenital Malformation of the Aortic Valves, obtained from a young woman nineteen years of age, admitted into Victoria-park Hospital

under his care in October, 1878. When five years of age she sustained an injury to the back from a fall down some stone-steps, and since then her spine had become more and more deformed. There was no history of rheumatic fever. When admitted she could not walk without aid, having an extensive angular curvature of the spine in the upper dorsal region. She suffered from dyspnœa, precordial pain, and palpitation. There was a rough systolic murmur at the base of heart, followed by a loud second sound, and sometimes a diastolic murmur. She died rather suddenly in December. There was extensive caries of the last two cervical and first dorsal vertebræ, and an abscess in connexion with them. The heart, especially the left ventricle, was greatly enlarged. The right and posterior cusps of the aortic valve were fused together, and the blended segments also partially united with the left cusp. This lesion was evidently of congenital origin, and the substance of the valve was much thickened.

Dr. FINLAY exhibited a specimen of Congenital Malformation of the Heart, showing stenosis of the pulmonary artery and an imperfect auricular septum, as well as patency of the foramen ovale. The case was that of an ill-developed young woman, twenty-three years of age, admitted into the Royal Hospital for Diseases of the Chest in September, 1878, with a history of always suffering from shortness of breath and cough, and from an attack of hæmoptysis for six days preceding her admission. There was marked cyanosis, clubbing of extremities, and the physical signs of phthisis; also evidence of left-sided enlargement of heart, with a loud harsh systolic murmur, most intense over the second left interspace close to the sternum, audible behind, and accompanied at the base of the heart by a diffused thrill. Another and softer systolic murmur was heard at the right base. After a month's stay in hospital she left relieved, but returned on Jan. 15th in an almost moribund condition, the physical signs being much as before, but intensified, and she died two days later. The right auricle and left ventricle were greatly enlarged, especially the former, its walls being hypertrophied. There was a patent foramen ovale, and several cribriform apertures in the posterior half of the auricular septum. The tricuspid orifice was small, and the valve the seat of small warty growth. The cavity of the right ventricle was small, but its wall thick, whilst the pulmonary orifice was reduced to a small triangular opening left between the fused valve-segments. The trunk of the pulmonary artery was greatly dilated, measuring four inches in circumference. The ductus arteriosus was closed, and the septum ventriculorum complete. There was mitral incompetency, and dilatation with hypertrophy of the left ventricle. The aortic valves were normal, but some patches of atheroma existed in the aorta. The lungs were riddled with cavities, and studded with caseous deposit. Dr. Finlay pointed out as interesting facts in the case the existence of the imperfection of the auricular septum, in addition to the patent foramen ovale; and also the extreme dilatation of the pulmonary artery, which in cases otherwise similar is generally found smaller than natural.

Dr. BARLOW also showed a specimen of Congenital Pulmonary Stenosis, which, as in Dr. Finlay's case, was associated with a dilated pulmonary artery.

Dr. DOUGLAS POWELL thought the dilatation of the pulmonary artery remarkable, and suggested that it might have taken place from the vessel losing its elasticity, and thus yielding gradually to the blood poured into it.—Dr. PEACOCK said, undoubtedly the rule was for the pulmonary artery to be small in size when the orifice was congenitally stenosed. Perhaps the lungs were imperfectly expanded, and thus some early difficulty to the pulmonary circulation was established. Another feature of interest in Dr. Finlay's case was the coexistence of phthisis—a further confirmation of the incorrectness of Rokitansky's view that cyanosis is antagonistic to tubercle.—Dr. BARLOW said that in his case the lungs were not in a condition of atelectasis.—Dr. FINLAY suggested that the extensive lung disease in his case might have aided in increasing the strain on the pulmonary circulation, and thus led to the dilatation of the vessel.—Dr. PEACOCK added that in most of these cases the ventricular septum is imperfect. Here, however, it was entire, and this might go some way in affording an explanation of the dilatation of the artery.

Dr. BARLOW exhibited a series of specimens and drawings illustrative of a Condition of the Skull in Children suffering from Congenital Syphilis. 1. From a child who died of marasmus, at the age of ten months. There were no visceral changes, the cranial condition being the only special syphilitic lesion found after death. This condition consisted in swelling and deep maroon coloration of the bones bounding the anterior fontanelle. The interparietal suture was marked by an eminence on each side; and on section there was found to be considerable thickening of the frontal bones, the parietals, and their anterior, upper and lower part, and also of the occipital; whilst there was some union between the right frontal and the parietal. The bone was soft, porous, and spongy in texture, whilst the periosteum showed no obvious change, and the unaffected parts of the parietal showed small spots of thinning. 2. From a child of seven months, who had never been treated for congenital syphilis. In this case also there were no visceral changes; but great thickening of the cranial bones and obliteration of sutures, as in the first case. The spongy vascular thickening affected chiefly the frontal and parts of the parietal bones, which were also channeled in various parts. In this case the periosteum was slightly thickened over the affected bone, and showed some change on its inner surface. 3. From a child aged three months and a half, who had also disease of the basilar artery, shown by Dr. Barlow at a recent meeting (see THE LANCET, Jan. 25th). The cranial changes were less in extent but of the same kind as in the other cases, and were confined to the frontal and anterior portion of the parietal bones. The surface was stippled and more vascular than in the other specimens. There was no obvious periosteal thickening. 4. This specimen was sent to Dr. Barlow by Mr. Day, of the Waterloo-road Infirmary. It was from a marasmic child twelve months old. No history could be obtained in the case, but there was no evidence of rickets. There were no visceral lesions, and the specimen (a portion of the parietal bone) showed a more advanced stage of the condition present in the other cases, the deeper layers of thickened bone presenting evidences of organisation and the appearance of fibres passing vertically through the bone. Dr. Barlow said the subject was not a new one in literature. For his knowledge of it he was chiefly indebted to M. Parrot, physician to the Foundling Hospital at Paris, who brought the question prominently forward at the meeting of the French Association of Science at Havre two years ago, especially dwelling on the fact that infants suffering from congenital syphilis, from birth to the age of two years, invariably exhibit marked prominences of bone in definite positions, particularly around the anterior fontanelle, but never on the parietal eminences. M. Parrot describes the change as a porosity and channeling of the bone, with, in later stages, the formation of trabeculæ at right angles to the plane of the bone, and often with bridging of the sutures by the new formation. These changes were perfectly distinct from rickets, and peculiar to congenital syphilis, especially in marasmic children. They explained that peculiar physiognomy—viz., marked prominence and bulging of the frontal bones—to which fifteen years ago Mr. Hutchinson had drawn attention in the subjects of congenital syphilis, in his classical memoirs on changes in the eyes and teeth in this disease. Mr. Hutchinson at that time suggested that arachnitis might explain the change in form of the skull. It must be remembered that the subjects chiefly spoken of by Mr. Hutchinson were considerably older than those observed by M. Parrot. As to the precise nature of the change, Dr. Barlow preferred to style it simply "syphilitic disease of the bone"; it would hardly come under the head of "nodes," for these were generally ascribed to periosteal change, of which in these cases there was but slight or no evidence, at any rate to the naked eye. In a case of cranial nodes in a child he found great thickening of periosteum, and in some places suppuration of the underlying bone—conditions analogous to syphilitic nodes in the adult. Dr. Barlow also exhibited two specimens of Cranio-tabes from young children, showing great thinning of the inner table. The condition was not in these cases associated with rickets, as asserted by Elsässer; and the reason of its not being more frequently recorded probably lay in the fact that the thinning involving the inner table could not be perceived through the scalp.—In reply to the President, Dr. Barlow said that he was unable to examine other parts of the skeleton. None of the cases showed any obvious epiphysial

change.—The PRESIDENT said they were greatly indebted to Dr. Barlow for bringing forward a subject which was, at any rate, novel in England. He acknowledged that he had fallen into error in ascribing the changes of the skull peculiar to the subjects of congenital syphilis to a temporary arachnitis and effusion of fluid within the cranial cavity. These peculiarities, invariably presented by the subjects of "syphilitic teeth," consisted in an enlargement of certain parts of the frontal bone in the form of low prominences, to which a peculiar squareness of the forehead was added. He could now see that their true interpretation lay in actual change in the bone itself. The cases also proved the extent to which syphilis in its early stages may affect the tissues, and bore out the theory that "tertiary" affection is really a recrudescence of disease in parts previously affected. It would be interesting to know if these children suffered specially from pain in the head.—Mr. MACNAMARA had only seen one specimen of the kind before, and he was then inclined to attribute it to rickets, but he fully accepted Dr. Barlow's view as to the syphilitic nature of the change. One of the specimens shown appeared as if there had been periosteal change, but the absence of periosteal thickening did not disprove a periosteal origin for the disease. One specimen showed slight necrosis in the inner table, and probably the great vascularity of the bone had in most cases preserved it from undergoing necrosis. Most of the specimens showed thinning of various portions, which was almost characteristic of rickets; still the condition of malnutrition of these children might account for the production of these effects. He asked if there was any other evidence of rickets in these cases.—The PRESIDENT observed that the prominence of the frontal bone in these cases was quite distinct from that of the rickety skull.—Mr. BUTLIN asked if any microscopical examination had been made to determine whether the change was chiefly due to a periostitis or an ostitis.—Dr. LEES said that, like Dr. Barlow, he was at first sceptical of the syphilitic nature of these changes; but since they had been more fully demonstrated he had seen several instances, and had no doubt of their connexion with syphilis. A child is now attending him at Great Ormond-street with a large liver and spleen, and four well-marked prominences on the skull around the anterior fontanelle. Amongst other cases was one of a boy three years of age, who came for slight catarrh. He presented great thickening of his whole skull, and a rounded prominence in front on either side, and also thickening on the inner side of the tibia. His infant brother exhibited unmistakable signs of congenital syphilis; and the mother stated that the boy had shown the same symptoms in his infancy. The existence of this frontal thickening frequently led to a correct diagnosis in cases which otherwise would have escaped detection, and in no case was rickets a prominent feature—indeed, it was mostly absent, although 90 per cent. of children in out-patient practice showed some evidence of rickets. Epiphysitis is comparatively rare in congenital syphilis.—The PRESIDENT said, as to the question of styling these swellings "nodes," that the changes were due either to inflammation of the periosteum, or of the bone, or both. One of the specimens showed a distinctly laminated appearance, in another the change was more diffuse. He would suggest that the changes were the results of the "secondary" stage, and not of the "tertiary," when there is a tendency to suppuration, and that therefore they do not conform to the clinical term of node, but are rather parallel to the attacks of painful swelling of the skull, met with in acquired secondary syphilis, swellings which disappear under treatment, and do not soften down.—Dr. BARLOW did not think any of the children suffered from pain in the head, and remarked that bone affections in congenital syphilis were distinguished by absence of pain, and this was one reason why epiphysial disease was often overlooked. Even in the case to which he had referred of actual suppuration and ulceration of the skull, pain was absent. One of the cases did have transient epiphysial affection. In reply to Mr. Macnamara he said that the first case did show very slight evidence of rickets, which, however, was absent from all the other cases, the chief signs of rickets being nodulation of the ribs and the existence of transverse and vertical furrows on the chest wall. He could not deny that the changes in these skulls must take their rise in the periosteum, but in two the membrane showed no thickening, and he urged a less exclusive view of the origin of syphilitic changes, believing, for instance, that the epiphysial disease generally started in the bone itself above the cartilage, and not in the perichondrium. He had preserved portions for microscopical examination, and would lay the results of his examination before the Society.

Mr. DAVIES-COLLEY showed a specimen of a Peculiar Affection of the Palms and Soles, sent to him by the late Dr. Gayer of Calcutta. One hand was exhibited. The patient was a Brahmin Hindoo, forty-five years of age, who died from pyæmia after amputation for compound fracture of the leg. The palms of the hands and the soles of the feet, in addition to small spots of leucoderma, were covered with a peculiar eruption of small tubercles, composed of thickening of the horny epiderm, beneath which the papillæ were much obliterated. They resembled small corns, but were seated indifferently on parts not exposed to pressure as well as those which would have been pressed on.—Dr. HOGGAN thought it a form of scleroderma, using that term in a general sense.—Mr. MACNAMARA referred to the common occurrence of leucoderma among natives of India, who regard it as a form of leprosy, and seek to hide it by staining.—The PRESIDENT said the change to some extent resembled psoriasis palmaris; and, on his suggestion, the specimen was referred to the Morbid Growths Committee.

Mr. DAVIES-COLLEY also showed a specimen of Malformation and Disease of the Ureter and Bladder in a female child eighteen months of age. She had always had difficult micturition, and four weeks before coming under notice had measles. When seen she presented a vascular funnel-shaped projection from the urethra, an inch in length and half an inch in breadth. This proved subsequently to be a prolapsed portion of the mucous membrane of the left ureter. Chloroform being given, Mr. Colley passed a catheter for a distance of five inches up the projecting canal, and drew off a quantity of fetid pus, and at the same time drew off by another catheter some clear urine from the bladder. He ligatured the projecting mass and removed it, the child dying nine days later. The left kidney was found in a pynonephrotic condition, with no trace of strumous pyelitis; the ureter was dilated to the size of the little finger; there was slight cystitis, and the vesical orifice of this ureter was fringed by a ragged edge of mucous membrane, evidently the stump remaining from the portion he had excised. He believed the condition due to congenital obstruction or impaction of a calculus in the ureter, which not only led to the renal change, but also to prolapsus of the mucous membrane bounding the orifice of the ureter—the prolapsed portion being gradually forced through the urethra. The attack of measles probably determined the suppuration in the kidney, already distended and sacculated by pent-up secretion.—Mr. WALSHAM said that in St. Bartholomew's museum was a specimen of the bladder and ureters from a man who had long suffered from stricture. In this case both ureters were prolapsed into the bladder, the rest of the tube being thickened. In examining the specimen, Mr. Walsham found considerable hypertrophy of the muscular fibres passing from the orifice of the ureter to the prostate—the "muscle of the ureter" of Chas. Bell, who believed that by their contraction they prevent regurgitation of urine during contraction of the bladder, and who showed that in disease this "muscle" is hypertrophied, leading to dilatation of the ureter above. In one of these prolapsed ureters a calculus was lodged, and if this had ulcerated through the contracted orifice of the ureter, a condition similar to that shown by Mr. Davies-Colley would have been produced.

Dr. SAMUEL WEST exhibited two specimens of Perforation of the Lung in Pneumothorax. The first was from a man twenty-two years of age, who had suffered from phthisical symptoms for two years, and who died from pneumothorax of the right side forty-eight hours after its occurrence, aspiration being twice performed with relief. At the post-mortem examination the heart was found much displaced, and the liver twisted round, its right lobe being greatly depressed, and the diaphragm on that side rendered convex towards the abdomen. The right lung was collapsed and only adherent by a few bands at the apex. The perforation occurred in the middle of the upper lobe, was of the size of a No. 3 catheter, and opened into a small cavity, the size of a cherry, into soft caseous walls. Several similar cavities, many near the surface, occurred in the lung, whilst the left organ was emphysematous, the seat of peribronchitic change, and small cavities evidently bronchiectatic, but no caseation. The other patient was forty years of age, in whom pneumothorax complicated somewhat rapid phthisis. Here the pleural cavity was obliterated over the upper lobe, and the perforation led into an irregular tra-

beculated cavity two inches in diameter, seated at the upper part of the lower lobe of the right lung, the upper lobe being one large cavity. Smaller excavations occurred in the left lung, which was further the seat of recent pneumonic consolidation. The cases showed two forms of phthisis in which pneumothorax occurred, the first being rare, as it took place from ulceration of a cavity evidently of bronchiectatic origin.

Dr. NORMAN MOORE showed recent specimens of Viscera from a case of Sulphuric-acid Poisoning. The patient had swallowed half a pint of common oil of vitriol with suicidal intent, half an hour before admission; and he died in great pain one hour and a half later. The whole alimentary tract, from mouth to rectum, was changed; the changes were slight in fauces and buccal cavity, but the œsophagus was denuded of epithelium, and the acid had saturated the pericardium, surface of heart, and contiguous portions of lung and diaphragm. The stomach was wholly destroyed, whilst the intestines throughout, as far as the upper part of the rectum, presented a greyish pultaceous change of the mucous membrane. All the abdominal viscera were hardened on their surface by the action of the acid, and the abdominal muscles were also saturated with it. Much of this might have been due to post-mortem diffusion of the acid; but the great extent of the alimentary tract involved was interesting in connexion with the large amount of the corrosive swallowed.

Dr. MOORE also showed a specimen of Cancer of the pericardium, from a female, fifty-three years of age, admitted under Dr. Church's care, having been ill three months with swelling on the right side of the neck. This was found after death to be due to cancerous infiltration of the supraclavicular glands, the sternum and sternal ends of the clavicles being also infiltrated, whilst the mediastinal glands were similarly involved, the cancer extending thence to the to pericardium covering the right side of the heart. The new growth, which was composed of large epithelioid cells and but scanty stroma, had softened down in places on the pericardium.

Dr. SANGSTER exhibited for Mr. Bellamy and himself a series of microscopical preparations from Rodent Ulcer of the Nose and Face. The patient was forty-six years of age, and, when seen by Mr. Bellamy, exhibited a large ulcerated surface involving the left side of the nose, extending widely over the cheek; the septum naris had disappeared. Seven years ago a small nodule had formed at this spot, for which the patient consulted Sir J. Paget and Mr. Hutchinson, who both counselled its removal. From that time it had continued to spread and ulcerate, and had been frequently cauterised. At last, after consultation with Mr. Bellamy and Mr. Hulke, the patient consented to its removal. The main result of the microscopical examination was to show that the new growth consisted of closely packed epithelioid cells, having large oval nuclei, and contained in the meshes of fibrous trabeculæ, but wholly distinct from the Malpighian layer, and much encroached on by inflammatory cell-growth. There were no epithelial "nests," properly so called, which accorded with the clinical history of the case in differentiating it from epithelioma. — Dr. T. C. FOX did not think the sebaceous glands hypertrophied, and considered the changes similar to those recently described by himself and Dr. Tilbury Fox.

At the President's suggestion the specimen was referred to the Morbid Growths Committee.

MEDICAL SOCIETY OF LONDON.

Operative Interference in the Treatment of Inflammation of Bone.

THE annual general meeting of this Society was held on March 1st, Mr. Erasmus Wilson, President, in the chair. After the special business of reception of the Council's report, election of officers for the ensuing year, &c., a paper was read by Mr. BRYANT on the Value of Operative Interference in the Treatment of Inflammation of Bone, dividing his subject into three parts, and illustrating each by the quotation of cases. The *first* was on drilling and trephining bone the subject of chronic inflammation; the *second* on trephining or making a free opening into bone the seat of suppuration; and the *third* on operative interference in acute periostitis and endostitis. (1) Longitudinal division by a saw or trephining bone chronically inflamed has been practised at intervals by surgeons for many years, although it has hitherto been confined to three classes of cases—viz., to those in which relief has not been obtained by other treatment persistently applied; to those in which from the persistency or severity of pain surgical interference is demanded; and to those in which an abscess in the bone was suspected, but chronic inflammation alone found. If the principle on which the practice is based be right, the operation should have a wider range; for, granting that the division or trephining of a bone chronically inflamed *relieves tension*, gives exit to inflammatory fluids, lessens pains, and cures disease in such obstinate cases as have resisted all other modes of treatment, it is not unfair to infer, if the same or an allied practice were applied at an earlier period of the inflammatory affection, that equally good results would be obtained, and that while in some cases the inflammation would be checked by the operation, in many an early and complete recovery might be anticipated. Four cases were then quoted at length. (2) Applied to suppuration of bone. Mr. Bryant referred to a quotation which he had taken from John Hunter's MS. lectures, and given in his Practice of Surgery, vol. ii., p. 509, from which he said it must be unquestionably admitted as a fact that surgeons were in the habit of using the trephine in cases of suppuration in bone in the time of Hunter, although in recent times the credit of introducing the practice has always been attributed to Sir B. Brodie. No surgeon now doubts the practice to be a good one, although it may be a question whether it is followed as freely as it might be. The cause of the neglect is probably due to the difficulty of diagnosis, and the fear in the mind of the surgeon of not finding pus in the part perforated, most practitioners having still a kind of dread of opening a part in which pus may be suspected without finding it. This error would, he believed, disappear if the lesson conveyed in the preceding part of his paper were recognised, and if it were generally admitted that the operation of drilling or trephining bone the seat of a *chronic* inflammation was as beneficial as it is known to be when suppuration exists. Four cases were quoted to illustrate this practice.—(3) He then dwelt on the value of operative interference in acute periostitis and endostitis, and quoted some interesting cases, one being an instance of the condition described as "hæmorrhagic periostitis." The following conclusions were then drawn:—That in acute periostitis or endostitis a free incision down to the bone, by relieving tension and giving exit to inflammatory effusion, does nothing but good, and that it should be made as early in the progress of the case as the diagnosis will justify, and, if possible, before pus has formed. The very commonly fatal termination of these cases by blood-poisoning, when left to run their course unchecked, rendered the measure imperative. That in all forms of endostitis or osteo-myelitis of long bones, in which more or less intense and persistent pain is a prominent symptom, the operation of drilling, trephining, or making a free opening into the bone, should be entertained, as any one of these measures tends to check the progress of the disease, and in most cases relieves pain. In flat bones, such as those of the head, and in cases in which the preceding measures seem too severe, the simpler operation of cutting down upon the bone and separating the periosteum from it should be performed. That in all cases of suspected abscess in bone the same operative proceedings should be carried out, the operation of trephining inflamed bone suspected to be the seat of suppuration being generally as successful in relieving pain and effecting a cure as it is well known to be when a local abscess in bone is found to exist.—The PRESIDENT, after praising the paper, alluded to the persistency of the pain in inflammation of bone.—Mr. BLOXAM asked whether, in chronic osteitis dependent on the strumous diathesis, operative interference were justifiable.—Professor LISTER said that when house-surgeon to Mr. Syme he saw a case operated on, and, although no pus escaped, great and immediate relief followed. The success of this case had ever influenced his treatment. With the gouge and hammer a broad trough might be made down to the diseased bone, and he had met with no disadvantage, especially since he had used "antiseptic surgery." Pyæmia is prevented and the cure expedited by the use of antiseptic precautions. In a case where the whole tibia, from knee to

ankle, was the seat of pain, an opening was made with the gouge and hammer in the upper part of the bone under antiseptics, the diseased structures removed, and a considerable cavity left. Healing took place without suppuration, but pain returned in the lower part of the bone, and, on again using the gouge, the blood-clot produced by the former operation was found to be organised and more or less bony. Again: A girl in her 'teens was admitted into the Edinburgh Infirmary with a sinus presumably due to necrosis. On cutting down, general diffuse chronic myelitis with suppuration was found. Under antiseptic precautions, he gouged out all the spongy tissue, leaving little but periosteum; the cavity became filled with blood and the whole of the clot organised, so that eventually the scar was flush with the surface. Professor Lister thought that, even if the spray were not used, at all events the wound might be treated with antiseptic lotions. By antiseptic treatment joints could be preserved after they had become the seat of suppuration, as in a case in King's College Hospital of acute necrosis of the head of the tibia extending into the knee-joint. In another case in which he made incisions into the knee-joint the patient recovered with movement. — Mr. ROYES BELL referred to a case of acute necrosis of the tibia, lasting only a day or two, in which, on making a free incision, the periosteum was found to be stripped up. He also related a case in which the knee-joint was opened, as there was evidence of pus, and, although not done antiseptically, the patient has a movable joint. Under the old plan clots always used to suppurate, instead of becoming organised, as Mr. Lister had shown.—Mr. GOULD related several cases in which great relief from pain and other benefit resulted from early incision into diseased bone. He quoted three cases under Mr. Macnamara's care at the Westminster Hospital. In one there was disease of the ankle and lower end of the tibia. A hole was drilled through the bone and a horsehair suture passed through, with great relief. In another case, one of inflammation of the upper end of the tibia, like treatment met with equally good result. The third case was that of a girl aged thirteen, who suffered from hip disease following injury. Mr. Macnamara saw her some four months after the injury, and passed a double gouge right through the trochanter, the neck and head of the bone, into the joint, so as to allow a free drainage. Relief was immediate and great. Mr. Gould also mentioned a case of an abscess bursting into the knee-joint, treated by free drainage and not antiseptically, yet perfect movement followed. — Mr. BRYANT replied, and agreed with Mr. Bloxam that strumous cases do not respond well to operative measures. He mentioned a case of chronic osteitis of the tibia in which the whole shaft was involved, where he gouged out the bone, covering the wound only with compound tincture of benzoin. Two or three months later the blood effused during operation was found undergoing organisation. In a case of comminuted fracture of the patella he had passed a drainage-tube into the joint, not under antiseptics, and with recovery. Mr. Gould's cases strengthened and supported his views.

OBSTETRICAL SOCIETY OF LONDON.

THE meeting of the above Society was held on March 5th, under the presidency of Dr. Playfair.

Dr. GALABIN showed a Greenhalgh's Pessary which had been worn for four years. It was in part embedded in the vaginal wall, and was removed, fish-hook fashion, only after cutting through the transverse indiarubber bands.

Dr. PLAYFAIR showed a Metallic Stem Pessary, with a wire support, which was fastened round the waist. This instrument had been worn five years!

Dr. ROBERT CORY showed a Uterus of a very interesting character. The patient had expelled a vesicular mole six months previously. She then suffered from menorrhagia, and was admitted to St. Thomas's Hospital. The hæmorrhage continuing, a solution of perchloride of iron was injected. As the second syringeful was sent into the uterus, the patient died. On examination iron was detected in the fluid in the cavity of the peritoneum.

Dr. MATTHEWS DUNCAN exhibited a Uterus which was dilated in consequence of occlusion of the cervix. The cavity was lined by a pyogenic membrane.

Dr. DUNCAN also showed a Uterus containing a subperitoneal fibroid. The cervix presented what appeared on clinical examination to be malignant disease, but microscopical examination revealed no cancer structures.

Dr. BRAXTON HICKS showed a specimen of One-horned Uterus, with absence of one kidney; and Dr. GODSON showed a Polypus removed from the bladder.

A paper by Dr. H. WILSON, entitled "Notes on a Fœtus," was then read. It contained a description of the imperceptibly developed organs of generation of a fœtus born at full time. The conditions present pointed to a series of checks in development, dating apparently from the sixth to the twelfth week of uterine life. They showed in a remarkable manner the correspondence between the growth of the external and the internal organs of generation.

An account of the delivery, together with a description, of a monstrosity, by Mr. SCHOFIELD, was read.

A case of Abortion, Septicæmia, and Fatal Thrombosis, by Mr. MUSGRAVE, followed. A patient, aged thirty-two, miscarried at the fourth month; placenta did not come away for several days, and then only in fragments. In a fortnight she presented signs of fever; temperature was raised. She improved considerably. In about a month, when being raised in bed, she complained of sudden pain in the chest, and presented all the signs of thrombosis of the heart; there was a distinct murmur at the base of the heart. She died in the course of some hours.

Dr. ROPER read a case of Thrombosis, which proved fatal on the fifteenth day after delivery. The patient had a natural labour. On the third day she had pain in the side and fever; she improved, and on the sixth day appeared convalescent. On the twelfth day she was attacked with sudden and severe dyspnœa; the pulse rapid; the temperature was never above 99°. No abnormal heart- or chest-sounds were heard until near the end of her life, when bronchitic râles were audible over the back. She died on the eighth day after the onset of dyspnœa. A post-mortem examination was made, and extensive recent perihepatitis and perimetritis was discovered, with a large clot in the right ventricle and pulmonary artery, evidently due to an embolus, which had started from the uterine veins.

Reviews and Notices of Books.

Elements of Comparative Anatomy. By CARL GEGENBAUR, of Heidelberg. Translated by F. JEFFREY BELL, Magdalen College, Oxford. Revised, and a Preface written, by Professor E. RAY LANKESTER. pp. 645. London: Macmillan and Co. 1878.

THIS work is a translation of the second edition of Gegenbaur's "Elements," the proof sheets of which were forwarded to the translator, enabling him to be almost abreast of the edition published in Germany. We have compared the present translation with the first German edition in many parts, and are satisfied that the author has taken the greatest trouble and pains to render it a thorough epitome of the present state of knowledge in this department of science. Every page bears evidence that it has been carefully reread and considered, not only because new matter has been inserted, but because the old material is put in a new light, and rendered more precise and intelligible.

The plan adopted by Professor Gegenbaur is, in the first place, to give a comprehensive view of the several organs of which the animal body is constructed. No attempt is made to enter into details, but a short general description is given of the histology and development of the muscular, nervous, and other systems. This part extends over about eighty pages, and the rest of the book is devoted to the account of the special groups of animals. These he takes in the following order: Protozoa, Cœlenterata, Vermes, Echinodermata, Arthropoda, Brachiopoda, Mollusca, Tunicata, Vertebrata. In this arrangement the only changes that have been made from the last edition are that the Brachiopoda and Tunicata are raised into distinct groups, instead of being fused with the Mollusca. If we follow Professor Gegenbaur's mode of treatment of any of the great subdivisions, we find that, in

the first place, he gives a good account of its classification. Thus, taking the Arthropoda as an example, he divides it into the Branchiata, including the Crustacea and Pœcilopoda; the Protracheata; and the Tracheata, including the Arachnida, Myriapoda, and Insecta. These are again subdivided into groups, families, and genera; the Crustacea, for instance, being subdivided into the groups Entomostraca and Malacostraca; the Entomostraca into the families of Cirripedia, Copepoda, Ostracoda, and Branchiopoda; the Branchiopoda into the Cladocera and Phyllopoda; and so on. In dealing with the morphology of the class, however, the taxonomic method is entirely put on one side, and an organological method adopted with the best effect—that is to say, each system is taken separately, and the changes in form and character it undergoes traced in the several forms.

We do not hesitate to say this is the best and most complete work on comparative anatomy in the language. The only treatises that can compare with it are those of Owen, now much behind the time, though containing a store of facts that will always render it valuable, and Huxley's two small volumes, in which, however, the treatment of the subject is altogether different. The lines are here traced with the hand of a master, and whilst many minor points are omitted, the main facts are brought into strong relief. Any student who has made himself familiar with this work may consider that he possesses a sound elementary knowledge of animal morphology. To complete his information he would still have to work in a well-stocked museum, and with fresh typical specimens, but the general foundations would be laid on which he may securely rest a more intimate knowledge of particular groups, and he would probably have little to unlearn in the future.

The translation does credit both to Mr. Bell, who made it, and to Professor Lankester, who revised it. Here and there we have noticed, but think it unnecessary to indicate, passages which might have been rendered much clearer had they been broken up into two, or even three, paragraphs. But long paragraphs are not a failing of the author. On the contrary, his German is, as a rule, easy to read and free from obscurity, and, taken as a whole, the translation before us runs easily and well. Like all Messrs. Macmillan's publications, it is excellently got up. A special debt of gratitude is due to the translators for supplying an index, a defect severely felt in the original treatise.

OUR LIBRARY TABLE.

The Journal of Anatomy and Physiology. Edited by Professors HUMPHRY, TURNER, MCKENDRICK, and CREIGHTON. Vol. XIII., Part 2. London: Macmillan.—This part contains no less than twenty-two articles, and we can only mention a few of the more important. Dr. Major gives the Structure of the Brain of the White Whale. The brain weighed sixty-two ounces, and the cerebellum a little more than seven ounces and a half. Microscopical investigation exhibited very slight differences from the characters presented by the human brain. Dr. Thin describes the Optic Nerve-fibres and Ganglion-cells of the Mammalian Retina. He uses as a preserving agent one part of methylated alcohol to two or three of water, in which the eye may be allowed to remain for twenty-four hours. Mr. Ackroyd describes the Movements of the Iris on the admission of definite amounts of light through small holes, and by other methods. He finds one-third of the light competent to contract the pupil to a marked extent is sufficient to start its movement. Mr. Cameron reports three cases of Axillary Mammary Tumour, each of which proved to be an adenomatous supernumerary mamma. Dr. Young reports a case of Absence of the Profunda Femoris Artery, and Mr. Stuart of Irregular Course of the Popliteal Artery. Dr. Alexander James contributes a table on the Tenacity of Tissue. Dr. Renton suggests a Method of Measuring the Diameter of the Retinal Vessels. He places a micrometer between the mirror and lens of an ophthalmoscope. Dr. Cleland describes a Double Monstrosity of the Head, and Dr. Creighton the Formation of the Placenta in the Guinea-pig, with an account of the physiological type of the giant cells of tubercles and granulations. Professor Turner describes the cotyledonary and diffused Placenta of the Mexican deer, and has also a short communication on Exostosis in the External Auditory Meatus. Mr. Williams has a good paper on the Anatomy of the Quadriceps Extensor Cruris. Professor McKendrick describes the influence of Electro-magnetism on Phenomena of a Nerve, and also contributes a paper on Anæsthetics. Lastly, Professor Rolleston extols in a short paper the advantages to be derived from preparing brain first by immersion in zinc chloride, and subsequent immersion in spirit.

The Club Directory. By Lieut.-Col. GEORGE JAMES IVEY. London: Harrison, Pall-Mall. 1879.—This work, which is well got up in every respect, is or professes to be an exhaustive encyclopædia of clubs all over the civilised world, including the Cape, or at all events Cape Town. But the list is unfortunately incomplete. For instance, there are clubs of several kinds at the present seat of war in South Africa, and on both sides of the Tugela, but no mention is made of the comfortable little establishments at Maritzburgh and Durban, both of which must at this moment have vast demands made on their somewhat limited accommodation, though, if hospitality can make up for want of space, there will be plenty of room at both places, the Natal clubbists being noted for their courtesy to visitors. If such a book is to be really useful as a work of reference, it must above all things be accurate as to its details. Next to this, it should be concise as well as precise, and quite up to date. We must leave our readers who are club-men to judge whether this very eligible-looking book fulfils these conditions. If so, it should be in the morning-room of every club, and in the library of all those clubbable men who desire to be "well up" to the constitutional principles of establishments other than that to which they belong. And as clubs, like many other institutions, often change in character as well as in the *rôle* of membership very rapidly, a revised edition of this Directory should be forthcoming not less often than every two years; so that, if the book fulfils the conditions above indicated, profit as well as pleasure may be the result. We trust that the author, if he possess his own copyright, will find this to be the case, and assure him that he has our hearty good wishes on this head.

Journal of the Royal Microscopical Society. Vol. II., No. 1. February, 1879. Williams and Norgate.—The Royal Microscopical Society now publishes its own transactions and proceedings in a monthly journal, of which the number before us is an excellent example. Not only does it contain the text of the papers read before the Society, together with a full report of the meetings, but one chief feature of the journal lies in the introduction of notes and memoranda of interesting biological facts culled chiefly from foreign sources, and in some cases illustrated by drawings. These "notes," which in the number before us extend over more than fifty pages, should make the journal an excellent record of the progress of microscopical research both at home and abroad. A full bibliography of current writings on microscopical and biological subjects is also given in the journal, which is edited, under the direction of a publication committee, by Mr. Frank Crisp, LL.B., one of the secretaries of the Society.

My Experiences in a Lunatic Asylum. By a Sane Patient. London: Chatto and Windus. 1879.—No doubt most of our readers are familiar with these papers, which appeared a short time since in a lay contemporary. We have read them again in their slightly modified form, and, as at first, so now,

with mingled feelings. The thin disguises under which the institutions described are veiled, the strong sense of personal grievance felt by the writer, and yet withal the knowledge that his own book supplies as to his mental state at the time of his incarceration, make this, to us, one of the saddest of books—if its narrative be true, and of that we see no reason to doubt. Still it is grievous to find statements published about those who must perforce be silent. To the individual writer the relief experienced to his feelings by penning these things was no doubt great; to the community at large it is doubtful if their publication may not be fraught with harm rather than good; whilst to those of whom he writes the book must come as a sorrowful reminder of their responsibilities and cares.

The Life of Christ. By FRED. W. FARRAR, D.D., &c. Illustrated. Cassell, Petter, and Galpin (London and Paris).—The edition of Farrar's Life of Christ recently completed by Messrs. Cassell is remarkable for its elegance and interest, and forms a handsome volume. To the ordinary reader the great value of this well-known work is enhanced by a good selection of illustrative views and plates reproducing archæological remains and inscriptions. The woodcuts are admirably executed, and the general character of the book leaves nothing to be desired. It is needless to offer any remark on the literary production; while, in respect of the type, paper, and finish of the present edition, it is bare justice to say that it will compare favourably with any recent publication of the class with which we are acquainted. Messrs. Cassell, Petter, and Galpin may be congratulated on their latest contribution to the best class of family literature.

The Irish Medical Directory for the Year 1879. Dublin: 3, Molesworth-street. London: Baillière, Tindall, & Cox.—A well printed and useful volume, comprising summaries of the official and general information most needed by medical practitioners, and a convenient digest of the Acts of Parliament to which prompt reference is most frequently required. It combines the advantages of an excellent almanack with those of a directory.

THE MAGAZINES.

SEVERAL of the magazines for the current month contain one or more articles of interest to medical readers. To the *Nineteenth Century* Mr. Francis Galton contributes a curious and instructive paper on Psychometric Facts. After relating a series of experiments in respect of associated ideas, somewhat resembling a game of "hide-and-seek," he says:—"The more I have examined the workings of my own mind, the less respect I feel for the part played by consciousness. I begin with others to doubt its use altogether as a helpful supervisor, and to think that my best brain-work is wholly independent of it. . . . Its position appears to be that of a helpless spectator of but a minute fraction of a huge amount of automatic brain-work." The same periodical contains an article from the pen of Dr. Mortimer-Granville, entitled "Is Insanity Increasing?" On the strength of an enormous number of statistical facts Dr. Mortimer-Granville denies that insanity is really increasing. The number of insane persons in each succeeding decade is greater. This is partly due to an actual increase in the population, but it is chiefly owing to the circumstance that the admissions of insane persons into asylums are more numerous than the discharges by death or recovery. The outlet being less than the inlet, there is progressive accumulation. Another minor though not unimportant cause of the alleged increase of insanity is said to be the crowding of asylums with imbecile paupers and troublesome old people of both sexes, and of all grades. The asylums are described as "convenient lumber-houses for helpless and intractable paupers," the State offering a premium of four shillings a head per week for all the cases the Poor-law guardians and their officers, with the approval of the justices, choose to send to them.

The *Contemporary Review* contains a strange and somewhat incoherent article by Mr. George Cowell, F.R.C.S., called "Confession: its Scientific and Medical Aspect." Holding the doctrine that disease is the result of sin, Mr. Cowell labours to show the parallelism between the work of the priest and that of the physician, and seems to advocate the co-operation of the priest with the physician in the treatment of disease. Mr. Cowell's article touches very dangerous ground, and is foreign to the spirit of enlightened medicine. The primary duty of the medical practitioner is to prevent disease by the observance of the laws of sanitary science; failing that, he must endeavour to cure it by employing the resources of therapeutical art. Scientific medicine has gained so much by its divorce from the priesthood that it would be a retrograde step to attempt to renew the alliance.

Mr. Grant Allen deals with more material things in his article in *Belgravia*. "Why do we eat our dinner?" is a plain question, but one which few persons are able to answer intelligently off-hand. Mr. Allen in his lucid manner comes to its solution by explaining the relation between the food taken into the body and the automatic and voluntary activities of the organism. Although he gives his readers a rational reason in future for eating dinners, he is fain to confess that, after all, Nature herself has admirably provided that even the most unscientific person should find sufficient internal conviction as to the desirability of dining without the aid of extraneous exhortation. Nevertheless, he very properly adds, it is at least a comfort to know that so universal and so unreasoning a practice is not altogether an unreasonable one as well.

HEALTH OF LARGE ENGLISH TOWNS IN THE TENTH WEEK OF 1879.

DURING last week 5631 births and 4122 deaths were registered in twenty of the largest English towns. The births exceeded by 449, and the deaths by no less than 752, the average weekly numbers during 1878. The deaths showed a further increase of 358 upon the numbers returned in the three preceding weeks; and the annual rate per 1000 rose to 29·1, from 25·1, 25·6, and 26·6 in the three previous weeks. During the past ten weeks of the current quarter the death-rate in these towns has averaged 27·2 per 1000; in the corresponding period of the four years 1875–8 the death-rate in these towns averaged 29·2, 26·3, 23·0, and 25·5 per 1000 respectively. The lowest rates in the twenty towns last week were 19·0 in Plymouth, 20·2 in Norwich, 20·9 in Bristol, and 21·5 in Birmingham. The rates in the other towns ranged upwards to 32·9 in Manchester, 34·7 in Wolverhampton, 34·8 in Nottingham, 36·5 in Leicester, and 42·7 in Oldham. To the seven principal zymotic diseases 375 deaths were referred in the twenty towns last week, showing a farther increase of but 5 upon the low numbers returned in the three preceding weeks; they included 125 from whooping-cough, 96 from scarlet fever, 48 from measles, and 42 from fever, principally enteric. The annual death-rate from these seven diseases averaged 2·7 per 1000 in the twenty towns, and ranged from 0·5 to 0·7 in Brighton and Plymouth, to 6·3 and 7·1 in Wolverhampton and Newcastle-upon-Tyne. Measles showed increased and epidemic fatality in Wolverhampton, Newcastle-upon-Tyne, and Leicester. Although the mortality from scarlet fever was below the average, the fatal cases showed a considerable excess in Salford, Sheffield, Nottingham, Sunderland, and Newcastle-upon-Tyne. Whooping-cough was excessively fatal in Manchester, Leeds, and Sheffield. Small-pox caused 17 more deaths in London, whereas no fatal case was recorded in any of the nineteen large provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals has slightly declined during the past fortnight, but 61 new cases were admitted last week, against 60 and 55 in the two preceding weeks.

THE LANCET.

LONDON: SATURDAY, MARCH 15, 1879.

THE present week has not been an idle one so far as regards the progress of medical legislation. On Tuesday night the Government Bill was read a second time in the House of Lords, the discussion in that House being limited, as usual, to the Lord President in the present Government and the Ex-Lord President in the late Government. One point of great interest was raised very vaguely by the Marquis of RIPON—a point which we ourselves have long insisted on—viz., the importance, in any conjoint system of examination that may be legalised, of securing equality, not only of examination, but of charges for examination. It is amazing to what an extent this point has been overlooked by Parliament hitherto, and by the Medical Council. Yet its importance is obvious. Fortunately it has not only been raised by the Marquis of RIPON, but the Duke of RICHMOND and GORDON has promised to look into it, and it cannot be looked into by a responsible statesman without his perceiving the necessity of the three minimum examinations of London, Edinburgh, and Dublin being equal in cost as well as in all other respects. It is proper, too, that the cost should be very moderate. Lord RIPON was less happy in his suggestion that those who wished to make changes in the constitution of the Medical Council wished also to make large changes in the objects for which it existed. For ourselves, we must enter an emphatic protest against this charge. Our constantly expressed reason for wishing to see a change in the Medical Council is that the Council may be made more fit for its duties as the Council of Medical Education. It is because the Council has failed to accomplish the ends of its existence that we are so anxious for its reform. We shall lightly criticise the unfortunate remark of the Lord President that if he failed on this occasion he would give up the attempt and leave it to his opponents. The noble Duke has taken a great deal of trouble, and shown much courtesy to all sides in this very difficult question. His patience and his power of taking a hint from friendly critics only need a little further extension for him to see his name associated with a very useful piece of legislation.

But, after all, it was in the House of Commons on Wednesday that the principal discussion took place. Here the whole ground of medical legislation was touched, even including the protection due to bonesetters and herbalists, who, our readers will be glad to learn, on the authority of Serjeant SIMON, do examine and test each other! The discussion arose on the motion for the second reading of Dr. LUSH's Medical Bill. Dr. LUSH's speech was in admirable taste, including his dignified allusion to the somewhat minatory observations of the Lord President the night before, to which we have already referred. He showed the impossibility of improving education in the medical profession without improving the body by which it was to be controlled. He was very ably supported by Dr. CAMERON, who showed that the present demand upon the time of Parliament would have been unnecessary if the Council had not failed in its duty. Mr. ERRINGTON spoke with great effect on the impossibility of agreeing to the passing of the Government Bill unless it was made to include the question of the Medical Council, and argued for the second reading of Dr. LUSH's Bill as the best basis for legislation, but with a view to its being referred to a Select Committee. One or two speakers were careful to say a few words in favour of the Medical Council; but none ventured to deny that the time had come for it to be changed and improved. Even Mr. COWPER TEMPLE, one of the authors of the Act of 1858, admitted this. At length, after an afternoon's discussion, the time came for the Government to speak, and the House began to warm up into something like an interest in the question, and in the reform of the Medical Council. Thereupon, Lord GEORGE HAMILTON, in a good speech, advised Dr. LUSH to agree to the adjournment of the debate on the understanding that a Select Committee should be appointed on the following day to inquire into the constitution of the Medical Council. The Vice-President objected to refer other parts of the subject of medical reform to the Select Committee on the ground that there was much practical agreement among the Bills, and that the scope of reference would be so large as to prevent legislation this year. But he made one important concession to Dr. LUSH by undertaking that the Government Bill should not be proceeded with in the House of Commons till the Report of the Select Committee was before the House. This will leave the opponents of the Government Bill in its present defective form at full liberty to oppose it, and to do this all the more effectively if they do not see their way clear to obtain those changes in the constitution of the Council which to them seem of the very essence of Medical Reform. It is evident now that the constitution of the Council must be dealt with. The very corporations will have an interest in knowing the changes which are to be made, and the discussion of Wednesday will prepare all parties for the inevitable. The medical reformers in the House may be congratulated on having done a good week's work.

THE members of the Medical Council probably now begin to see that they have been very badly advised. Every fault that a public body could display has been displayed. Its faults are partly inherent, and cannot be wholly charged upon its advisers; but its advisers have it in their power to make these faults stand out so as to be patent to the world, and they have so used their powers as to produce this effect. The Council was committed by its own act and deed in July last to report to the Government, which had been foiled in passing its Medical Bill by those who think that the Council itself needs reforming. Though eight of the Council, as against eleven, in the October meeting, wished by express vote to commit the Council to meet before the assembling of Parliament in February, and though, doubtless, a larger number considered the Council bound, in honour, and in the nature of the case, to have its report ready for the use of the Government before the period of active legislation began, Parliament has been allowed to meet, the Government has been allowed to bring in a Bill, and, without any allusion to the Medical Council, to announce that the question of

its constitution shall be referred to a Committee of the Lower House. It is a fine policy for a body that should guide the Government in medical matters to throw the Government into such a dilemma that it must refer such a question to a Committee of the House. The Medical Council is in the habit of boasting that the bodies which it mainly represents have governed the profession without the interference of the State. But we are having the interference of the State now with a vengeance; and if the present advisers of the Council continue in power, it seems probable that the medical profession will come to be under the rule and governance of the Privy Council, assisted by occasional meetings of the Executive Committee and constant visits of the President, and that the medical profession itself will be merged in a promiscuous crowd of midwives, dentists, and, ere long, doubtless, bonesetters. At any rate, if this unfortunate consummation is avoided, it will be due, not to the present leaders of the Medical Council, but to the good sense of Parliament, and to Dr. LUSH, Dr. CAMERON, Mr. ERRINGTON, and others, who have brought under the notice of Parliament and the Government the significance of the universal demand of the profession for a change in the Medical Council.

No situation could be more unsatisfactory than that in which the Council will meet on Tuesday. The profession looked with interest to its promised Report on its own Constitution. Now the subject is taken out of its hands, and referred to a Select Committee of the House of Commons. The Council will be occupied with accounts of the labours of its Executive Committee in preparing the Report and in laboriously keeping it back when prepared till too late to come with either grace or effect. An addition of ten thousand pounds, it is true, to the funds of the Council will be announced from the registration of dentists; and this is a kind of fact that gives pleasure to corporations. But the pleasure has been dearly bought by a most questionable neglect of the proper work of the Council, and by seeming to give its sanction to a most doubtful piece of legislation.

We shall soon see if the Council is alive to the loss of dignity in which recent legislation—and, we are sorry to add, prospective legislation—tend to land it, assisted by its own readiness, or its leaders' readiness, to accept new work. Are we to have ten thousand midwives brought into a semi-alliance with the medical profession? In every deep there is a lower deep; and we see no security that the time of the Council and its Executive Committee and its officers will not be mainly occupied for the next year in investigating the claims of ten thousand old women and monthly nurses to be registered as midwives. We are anxious to see legislation for the training of midwives, but we see the greatest objection to the Medical Council undertaking such a work. Whether it will do so or not will be one of the questions on which it may yet express a timely and dignified opinion. But our faith in the expression of timely and dignified opinions by the present Council is very much shaken; and anything may be expected from it but thorough attention to the subject of medical education.

IN policy as in ethics the only safe course is well within the lines of principle. The section of our profession practising dentistry as a specialty was primarily responsible for the assertion of principle in respect to the proposed admission of dentists who were not members of the profession to colourable connexion with it under the Bill of last session. We pointed out their line of duty in the case, and did our best to aid them in discharging it; but at the last moment, falling, not blindly, but in spite of repeated warning and remonstrance, into a trap cunningly laid for them, they misread a permissive clause of the Bill as compulsory, trusted, in the face of reason, to an obscure positive construction being substituted for a plain legal interpretation, and practically withdrew or abandoned their opposition. It would be impossible, without impugning the intelligence of these members of our profession, which is foreign to our purpose, to rehearse the obvious common-sense argument that unless the assumption of such titles as "surgeon-dentist," "dental surgeon," and the like, was expressly and formally interdicted by the Act, no prohibition could be inferred from the clause which in general terms forbids the improper use of titles by unqualified men. We say again—as we said when the Bill was before the House, and the efforts of the specialty were failing from loss of interest or misapprehension, while those of the partisans of the non-medical dentists were redoubled—the Bill as drawn, and the Act that now stands on the pages of the statute-book, is simply useless as a protection to the profession. Any man, be he blacksmith or druggist, who practised dentistry when the Bill became law, can claim to be registered. Any man who takes the pains to obtain one of those mere special licences which the Colleges are prepared to grant can be registered. And every registered dentist may, and is fully entitled to, represent himself as a "surgeon-dentist" or "dental surgeon," and he is at perfect liberty to display the component words of this title in any way which ingenuity may suggest or considerations of interest dictate. To wit, he may so place them as to make the "surgeon" all-important, and the "dentist" quite secondary, leaving the public to read as they run, and apply the inference at discretion. This is not a matter in which the surgeons practising dentistry have a monopoly of concern, although they were specially responsible for the guardianship of professional interests. The question involved touches the welfare of the great body of general practitioners, particularly in the more populous provincial towns and districts.

It may seem odd that we should reproach the surgeons practising dentistry in this matter, seeing that the Council of Medical Education is officially responsible for the defence of the profession from the encroachments of unqualified men of all classes; more especially must it appear strange to blame the gentlemen we have attacked, when it is remembered that the Medical Council was expressly consulted on this question, and placed its services at the disposal of the Government for the registration of the non-medical dentists. It will not, however, surprise anyone who has watched the proceedings of the Council since its constitution in 1858 to find that nothing is, or can be, expected from this quarter for the furtherance or defence of professional interests. We never thought of looking to the Council to help us. The alternative *rôles* of King Log and King Stork compose its repertory, and it has chosen to play the latter with regard to the dentists. These gentlemen have been registered, with great rapidity and complacency, at two guineas a

head; and if there is any feeling of regret in Oxford-street, it probably takes the form of a lamentation that there have not been more than five thousand to enter on the Register. A great change must come over the spirit of the professional dream of protection, as doled out by this constituted authority, before confidence can be restored. As it is, the natural order of relationship seems to be reversed, and the profession, with its camp followers, appears to be regarded as existing for the benefit of the Council, instead of the Council for the profession. It is necessary to speak plainly on this point, because the position in which matters are left by the Dental Act is really very serious. In certain districts the effect of recognising unqualified practitioners is already keenly felt by struggling medical men. The druggist having been a tooth-drawer, is now a *surgeon*, with the suffix dentist. In the local community he has been raised to the dignity of a "registered practitioner," under the protection of the Medical Council. How this operates it is needless to explain. The last boon obtained for the general practitioners of medicine through the good offices of the Medical Council is certainly one to be appreciated, although the estimate placed upon it by the profession will not, if it be rightly understood, be of the nature desired. The "dentists" no doubt have benefited by the Act. They have been elevated to the level of the surgeons practising dentistry, and are doubtless much gratified by the distinction. They ought also to be grateful. In their anxiety to deal generously with the class of half-qualified dental licentiates, with whom, for some inscrutable reasons, the surgeons practising dentistry were anxious to be on terms of closest amity, the members of our profession have sacrificed the sole intelligible principle—that embodied in the phrase, "a surgeon first, and then a dentist." And now, if rumour may be trusted, qualified surgeons are seriously proposing to draw the bond between the unequally yoked still closer, and to construct an "Association of Dentists" which is to comprise the *élite* of the several heterogeneous and, as we should have supposed, incompatible elements: namely, the medical men engaged in this specialty, the half-educated licentiates in dentistry, and the tooth-drawers and teeth-manufacturers who have been swept into the net of the Medical Council, and are consequently glorified with the mystic title of "registered." If this scheme is carried out, it will complete the scandal of a deplorable fiasco, and if members of the profession are found helping it, there will be an end of even the semblance of decency in the conduct of professional affairs and the maintenance of professional rights and principles.

THE fate of the Lower Thames Valley Sewerage Bill in the House of Commons furnishes a further and most instructive illustration of the increasing promiscuousness with which public health matters are dealt with in this country. While we are still engaged in wondering contemplation of one department of the Government, exercising no public health functions whatever, traversing the duties of another department of the Government presumably responsible for such functions, we are called upon to witness the House of Commons stultifying its own public-health legislation, and becoming the greatest obstacle to the execution of that legislation. This is the penalty we have to pay for relegating sanitary matters to a subordinate place in the administrative arrangements of the Government, and for the want of a responsible Minister of Health having a seat in the Cabinet. Questions of public health, as this scare of plague proves, are dealt with by the Government in its collective capacity as mere outside and incidental matters, and the hybrid position of the head of the department which should represent such matters in the House of Commons deprives him of that influence with regard to them which is essential for their effective conduct in the House. In the present instance, notwithstanding the peculiar difficulties which confronted the public body promoting the Bill—difficulties for which Parliament itself is mainly responsible,—and notwithstanding that the Bill was supported by the President of the Local Government Board, the House of Commons refused to refer it to a Committee (in other words, to consider it seriously), and threw it out.

It is not easy to suggest what course the body entrusted with devising and carrying out a scheme for relieving the lower Thames, above tide-flow, from crude sewage, will have to take in face of this rebuff. They have but a limited time in which to do their work, and much of this time has already been occupied in completing the scheme which Parliament has summarily rejected. They have given to the consideration of this scheme a large amount of attention, selecting it from many others, and it represented their matured judgment. They are fixed in a slowly-closing legal vice, framed by the Legislature itself, and at the last moment the House of Commons, untrue to its own legislative work, summarily elects to leave this body in the vice. And why?

The answer to this question is what chiefly concerns the public at large, for the objectors displayed a want of information on the subject at issue which was astounding for even an ordinary member of Parliament. In the forefront of their objections it was urged that the Bill "ignored public opinion." If for "public opinion" we read "public prejudice," we have the gist of the whole matter. The objectors have, in fact, conceived that the formation of a sewage farm for the disposal of the sewage of the area involved in the Lower Thames Valley Main Sewerage Scheme must necessarily create a nuisance prejudicial to the neighbourhood, and, in spite of the abundant evidence to the contrary, they persist in this belief. This is just the sort of "public prejudice" which, until the Legislature provides efficiently for the difficulty otherwise, the Legislature ought by its own act to remove. But when we see the House of Commons itself yielding to the prejudice, progress in such matters appears wellnigh hopeless.

Obviously the time has come when the sanitary education, not of the uneducated classes, but of the educated, should receive grave attention. When we witness the Privy Council reviving the old, disused, and almost forgotten law of quarantine, and the House of Commons yielding to popular prejudice in familiar matters of sewage utilisation, it is high time that some sort of special organisation should be set afoot for the wider diffusion of sanitary knowledge among the educated classes, and especially among such as aspire to the dignity of governing. At any rate, if there be such defect in the evidence as to dealing with sewage by irrigation without production of nuisance, as to justify in the opinion of the objectors in Parliament to the Lower

Thames Valley Sewerage Bill the course they have taken, it is incumbent upon them, in the interest of their own legislation and of sanitary authorities, to move the House of Commons to make further inquiry into the subject, either by Special Committee, or by moving for a Royal Commission.

A SERIES of researches, undertaken officially by M. PASTEUR and M. TOUSSAINT, have recently been announced, which throw some light on the origin, or at least the mode of contraction, of the "spontaneous" anthrax of animals. The two observers have arrived, in different ways, at precisely the same conclusions. M. PASTEUR, proceeding with the idea that the so-called spontaneous form is the result of the presence of bacteria, just as completely as the form which is produced by experimental inoculation, commenced by feeding sheep on food mixed with a liquid in which bacteria had been cultivated. Several cases of anthrax occurred, and ran the course of the "spontaneous" form. If, however, to the lucerne containing bacteria, such substances as thistles and hairs of barley were added, capable of wounding the mouth, pharynx, &c., the number of animals contracting anthrax increased considerably. The autopsy of the animals showed, moreover, that the disease commenced in the mouth and pharynx just as is commonly the case in the spontaneous anthrax. M. PASTEUR concludes that the anthrax may be communicated to animals by food containing the germs of bacteria, but only when the animals are wounded or become injured in feeding—injuries which would be wholly unimportant, so far as their general health is concerned, if an accidental circumstance did not render them dangerous. The practical result of this conclusion is that whatever may injure the mouth should be avoided in the food of animals, such as sharp, thorny, or siliceous plants.

M. TOUSSAINT started from a fact which he learned from a number of autopsies on animals dying of anthrax—viz., that in an animal which has died of this disease it is possible to ascertain at what point and by what path the bacteria were introduced. In the sheep, for instance, bacteria were only found after death in the bloodvessels and in those glands which were in the course of the lymphatic vessels coming from the point inoculated. He examined twelve sheep and two cows which had died some hours before of anthrax. The blood of all contained bacteria. An examination of the lymphatic glands showed, in eleven, the presence of bacteria, and the characteristic changes which they cause, only in the glands which receive the lymphatics from the tongue and pharynx, and consecutively in those at the entrance of the chest; the visceral glands were healthy. In the twelfth the changes existed only in the right popliteal gland. In the two cows the glands of the pharynx and neck were alone affected, and in one the affection existed on one side only. M. TOUSSAINT concludes that the bacteria gained entrance to the eleven sheep and two cows by the mouth or pharynx, and to the twelfth sheep by the right hind leg. The precise point of inoculation in the mucous membrane of the mouth, of the soft palate, or of the pharynx, could not be determined; but it seemed probable that it was by the abrasions which exist almost constantly in the mouths of these animals, and are due to the teeth or the food. Thus the two series of experiments concur in proving a most important point. The source of the bacteria in spontaneous anthrax remains undecided, and to this point the observers purpose directing their next investigations.

Annotations.

"Ne quid nimis."

THE IRISH MEDICAL ASSOCIATION AND IMPENDING MEDICAL LEGISLATION.

THE council of the Irish Medical Association have issued a statement of their views as to the essential points of medical reform with special view to the present situation of the question. The statement is highly creditable to the Association, and shows an appreciation of the complex nature of the question and of the changes that are needed which we could wish were more general. The Association will do great service by putting the statement into the hands of all Irish members. The council, after showing the very small number of medical electors, 849, now taking part in the election of the members of the Medical Council, recommends that each member of a corporation should vote in the election of a representative of that corporation; that the representation of certain bodies be merged in that of others so as to make room for direct representatives. The bodies whose continued enjoyment of a distinct representative cannot be justified in the opinion of the council are the University of Durham, the Apothecaries' Societies, and the Faculty of Physicians and Surgeons of Glasgow. Next the council urges the grant of complete control to the Medical Council over the education and examination of candidates for admission to the profession. We must here remind the council that this was offered to the General Medical Council last year and declined, very discreditably, as we think. The compulsory establishment of a single Conjoint Board in each division of the kingdom and the enforcement of absolute uniformity in standard of examination, extent of curriculum, and amount of fees payable for the case of each and all of the conjoint examining bodies, are next advocated as essential. We need not say how much we have urged most of these points, or how glad we are to see them stated with so much intelligence and force as in this document.

POVERTY AND PUBLIC HEALTH.

THE exceptional poverty and distress afflicting a large section of the population must inevitably produce a disastrous effect on public health. That the distress is not so great in the metropolis as in Sheffield, Lancashire, and other provincial towns or counties we readily admit, but it has, nevertheless, been sufficiently acute to produce, in many instances, great bodily deterioration, and this, if taken in conjunction with the severity of the winter, will account for the notable increase in the death-rate. The middle classes, suffering from the commercial depression, have been obliged to reduce their expenditure, especially in matters of luxury. The poorer classes, however, enjoying but few luxuries on which they could economise, have been compelled to deprive themselves of the necessities of life; while that large section of the population which, at best, is living on the brink of starvation, has been forced over the border and made to endure all the horrors of insufficient food and absolute want. We have ascertained, by numerous inquiries, that in poor quarters the publicans are doing very little business; the butchers and small eating-house keepers sell much less meat than during the usual winter; the consumption of tea and groceries has also sensibly fallen off; but, on the other hand, the bakers are doing a good business, for bread is about the cheapest available

food. These facts are very significant. The amount of nutritious food consumed in these poor quarters is never sufficient to maintain all the inhabitants in good health; but, now that this supply has sensibly decreased, we must expect to find a great want of tone, and witness all the depressing influences that render a people specially susceptible to the danger of infection. Indeed, scarlet fever is already reported to be very rife in various quarters. That the distress is exceptionally severe and dangerous appears from the complaints made by tradesmen in poor quarters; but the increase of pauperism and the overcrowded condition of the London workhouses further confirm our opinion. During the last week of January there were 44,709 inmates in the workhouses, showing an increase of 2900 on the corresponding week of last year; at the same time the number of recipients of out-door relief had also increased in spite of all the stringent efforts made of late to refuse assistance of this description. Again, during the first week of February there was a further increase, the workhouses containing 45,095 persons. In noting these figures we must not omit the fact, still further confirmed by our present investigations, that the poor, as a rule, will not go to the workhouse, however great their poverty. The riff-raff drift into the "house" during bad times; the poor sempstress or the more respectable labourer starves outside. This repugnance sometimes expresses itself in the most exaggerated manner. The recent case of Robert Frad, of King John-street, Stepney, who died of cold and starvation, illustrates only too painfully this feeling. This man, a licensed lighterman, had often been urged to enter the workhouse, and he not only preferred starvation, but, when someone procured a sheet and blanket for him, he put them away in a box rather than cover himself with workhouse bedclothes! He was finally found dead and almost naked on a bare floor.

ATHLETICISM.

IN some form or other at this season of the year, when the University boat-race and the Athletic sports come under notice, a discussion almost invariably arises with regard to the alleged antagonism between mental and physical work, a considerable number of objectors still asserting that the two are incompatible. It need hardly be pointed out the objectors are rarely if ever University men, or those engaged in practical tuition at our public schools. They are generally persons who have some very exceptional experience to relate, of some youth, of originally delicate constitution, who broke down under the combined strain of reading for honours and being tried for a seat in his college boat. General experience, however, teaches us that the amount of work engaged in by the majority of men at college is not sufficient to tire men so that reading is interfered with. Indeed, Mr. McLaren, in his valuable remarks on Exercise and Training, observes that the amount of muscular work done by each member of a college crew is insufficient for his bodily requirements and for his proper development. In fact, the external mechanical work thus accomplished is less than is effected by a walk of nine miles at the rate of four miles an hour, which the late Professor Parkes held was the standard amount of daily exercise for a healthy adult. The work done by University crews, however, is considerably more than that attempted by college crews, but then the members of these crews are the pick, in physique, of the whole University. Nothing, however, can be clearer in this case than that the extra exertion required for the Putney race does not interfere with the attainment of high literary honours. The names of Merivale, Selwyn, Balliol Brett, Abercrombie, Denman, Garnier, Hornby, and Warre prove the contrary, whilst a reference to the biographical notices published a few years since by Mr. MacMichael shows that University crews have carried off quite their full share of University distinctions, and by their success in after-life have proved that their energy has not been impaired by their exertions in youth. Nothing is so fatal to work as fatigue, and nothing induces this so readily as monotony of employment. The reading man who throws down his work at two o'clock in the afternoon and takes a sharp burst on the river for two hours in his college eight, will feel fitter for work in the evening than the man who has taken the regulation constitutional, and who has failed to leave the thoughts and anxieties of his work behind him, or to rouse his bodily functions to healthy response. With regard to the pursuit of athletics at our universities, we have no hesitation in saying that they are mostly directed for good. We wish we could say the same as regards our public schools. There we look upon the introduction of the spirit of competition into sports and games as altogether harmful in leading to too great a strain on the system whilst development is in its most active phase.

SWINE PLAGUE.

SCARCELY a day now passes in which we do not find a notice in the papers regarding outbreaks of "typhoid fever" in swine in different parts of the country, and the peremptory slaughter of the diseased creatures. This publicity is due, chiefly, to a recent order of the Veterinary Department of the Privy Council, in which the disorder is recognised as a contagious and destructive malady, for the suppression of which sanitary measures are necessary. Not that it is at all a new disease. On the contrary, it appears to have been in existence for a very long time, though its individuality has been rather obscured by the multiplicity of names it has received, and the other morbid conditions with which it has been confounded and mixed up. From the circumstance that the skin is frequently discoloured it has been designated the "red disease," "red soldier," "purples," "blue disease," "blue sickness"; but this discolouration is observed in other derangements of the pig, and is not constant even in this malady. It has also received the name of "hog cholera" in America, and "swine plague" there and on the continent of Europe. Until recently veterinary pathologists have classed it with the anthracic diseases, and it has been so described. In America it has also been known as the "intestinal" or "enteric fever of swine," and since 1865—in which year it was investigated by Dr. Budd—it has been designated "typhoid fever" in this country, and as such is alluded to in Privy Council orders. But there can be no doubt whatever that it presents but little resemblance, either clinically or pathologically, to typhoid fever in man, and the name is therefore not only inappropriate, but is dangerously misleading when its fatality and extreme degree of infectiousness are considered. Recent investigators have abundantly proved the erroneousness of Budd's designation, but the peculiar characteristics of the malady have proved an obstacle to its receiving a name sufficiently explicit to denote its nature. Klein names it "pneumo-enteritis," and other observers "bronchial catarrh" and "catarrhal pneumonia." Admitting that it is a disease *sui generis*, yet if pushed to find its analogue in the list of specific fevers of man, we would be inclined to compare it with measles, with which it has more features in common, perhaps, than any other; and, indeed, by this name (*rougeole*) it has long been known in France.

It is one of the most destructive diseases to which pigs are liable, and, for lack of a more distinctive popular title, it merits that of "plague"—as a plague it truly is. As "swine plague," its serious character would be far better indicated than by the improper name of "typhoid." Though it has prevailed intensely for many years, yet its ravages appear to be increasing in severity and geographical extent. In the United States it must be looked upon as a

most formidable scourge; for in 1876 alone it is estimated that it destroyed 4,000,000 swine of all ages, causing a money loss of 20,000,000 dollars. We have reason to suspect that many carcasses of these infected pigs find their way into the pork market on the other as well as on this side of the Atlantic. To what extent this swine plague may prevail in this country we know not, as only a very few outbreaks are reported to the local authorities; for, when it appears among a lot of pigs, the butcher's services are called into request, and the whole are killed and dressed as speedily as possible, or those not yet affected are sent to market, where they mix with other pigs and are scattered over the country. In this way is the disease maintained and extended. To fairs and markets, and the surreptitious traffic in visibly affected animals, must be ascribed the diffusion of the disorder, and its appearance in localities hitherto free from it. Only the other day an outbreak in Aberdeen was justly ascribed to some infected pigs imported by rail from the Norwich market.

The contagium can be conveyed by the breath, fæces, and secretions of tainted swine, as well as by various media, such as the atmosphere, water, food, hands or clothing of attendants, cleaning utensils &c. which had been employed about diseased animals or their habitations. Experimental inoculations with the blood, exudations, and effusions, as well as the mucus from the bronchi and intestines of stricken pigs, have produced positive results; and so has feeding with diseased products. Of the extent to which it is transmissible to other than the porcine species we are not yet well informed, though we may mention that it has been communicated with difficulty to rabbits, guinea-pigs, and mice. As, however, there is every probability that the virulence of the disease is due to a kind of bacterium, not very unlike the *Bacillus anthracis*, which is the active agent in the production of anthracic disorders, it is not unlikely that its range of transmissibility is extensive.

Viewing "swine plague" from a sanitary standpoint, we are decidedly of opinion that the flesh of infected swine should be absolutely prohibited as human food, and that attempts to dispose of it for this purpose should be made penal. As the existence of the plague is due solely to its contagious properties, severely repressive measures would soon extinguish it, if they were rigidly enforced; whereas half measures, or lax inspection, can only prove harassing and ineffectual. The sanitary measures necessary for warding off or suppressing the disorder will prove a boon to the porcine tribe itself—only too often sadly neglected in the matter of food and lodging,—while they will guarantee healthier flesh for public consumption. It is not dairies and stables only that need sanitary supervision; the pigstye is generally an abominally filthy den.

CHLORAL AS AN ANTIDOTE.

PROF. HUSEMAN, of Gottingen, has been engaged in a long series of observations on the antagonistic and antidotal actions of drugs, and some of his investigations which relate especially to chloral are described in a recent number of the *Archiv für Experm. Pathologie*. Of these the following is a summary. Chloral hydrate is known to act as an antidote to strychnine, lessening the spasm, and even preventing death. It has a similar action in the case of the mixture of strychnine bases sold under the name of brucin, and also against the opium alkaloid thebaia, which simultaneously tetanises and lessens sensibility. The spasms produced by chloride of ammonium diminish under the employment of non-fatal doses of chloral hydrate, and can indeed be completely stopped. Nevertheless death occurs, probably from the paralysing effect of both substances on the respiratory centre. The antidotal effect of chloral on the action of the poisons which cause convulsions by their action on the brain is not the same for all these substances. The quantity of the poison which can be counteracted by the antidote appears to be considerably greater in the case of picrotoxin than in the case of codeia. Of the latter, indeed, the fatal dose, and even a quantity half as much greater, can be rendered harmless, but twice the fatal dose cannot be counteracted, and is still fatal. Calabarin is counteracted by chloral hydrate in about the same degree as codeia. The symptoms produced in rabbits by poisoning with baryta are not materially altered by the action of chloral, which does not appear to prolong life. So, also, with carbolic acid; the spasms produced by it are not arrested by chloral, and the minimum dose fatal to rabbits still produces death. The combination of a fatal dose of carbolic acid with a non-fatal dose of chloral hydrate causes in rabbits a remakable fall of temperature, which is not produced by the action of these alone. As a rule, when chloral antagonises the action of these cerebral poisons, the respiration sinks in frequency much more than in the case of the analogous action of chloral on the tetanising poison. The depression of temperature caused by the chloral is almost independent of any peripheral loss of heat. The elevation of temperature due to division of the spinal cord is hindered by chloral hydrate. The depressing action of thebaia and codeia on the cerebrum, which is distinctly perceptible in many animals in addition to their action in causing spasm, is the chief effect recognisable in man. On the one hand, thebaia has a distinct action in lessening pain; and on the other, in human poisonings with this opium alkaloid, chloral hydrate is of little use, and in the case of poisoning by codeia, on account of the collapse which is produced, it is positively injurious.

MORTALITY AMONG METROPOLITAN IMBECILES IN 1878.

THE Metropolitan Asylum Board have just published in the minutes of their proceedings the ninth annual report relating to the Metropolitan Asylum for Imbeciles at Caterham. It is much to be regretted that the report again deals with the arbitrary period of twelve months ending September last, which renders the statistics valueless as a means for throwing light upon the remarkable variation between the rate of mortality in this institution and that which prevails in the sister asylum at Leavesden. It is surprising that the Managers of the Asylum Board, especially since their attention has been so frequently directed to the subject, should continue to ignore the urgent desirability that the statistics for those two asylums should be so prepared as to admit of detailed comparison, and, above all, that the reports should invariably relate to the natural year ending 31st December. Before noticing the mortality at Caterham and Leavesden in 1878, we must take exception to Dr. Adams's method of calculation, which obliges us to ignore his figures. He appears to give the proportion of deaths to the total number of persons under treatment — that is, the number under treatment at the beginning of each year, *plus* the number of admissions during the year. This method gives lower but less accurate rates of mortality than the proportion of deaths to the average number of residents, which mode of calculation is now most generally adopted, and yields far more trustworthy results. It appears from the returns made to the Board that the average number of residents in the Caterham and Leavesden asylums during 1878 was 4005—that is, 1977 at Caterham, and 2028 at Leavesden. The deaths registered among these residents were 301, of which 168 occurred at Caterham and only 119 at Leavesden. The rate of mortality during the year was equal to 75·2 per 1000 of the average residents in the two asylums, against ratios declining from 164·6 to 89·1 per 1000 in the seven preceding years 1871-7. The

death-rate in 1878 was the lowest on record since these asylums were opened in 1870. The disparity between the rates of mortality at Caterham and at Leavesden was as great as ever during last year; the rate which was equal to 92·1 per 1000 at Caterham did not exceed 58·7 at Leavesden. In other words, the mortality at Caterham showed an excess of 57 per cent. upon that which prevailed at Leavesden. During the eight years 1871–8 the annual rate of mortality averaged 126·9 per 1000 at Caterham, and only 99·5 at Leavesden; the excess of mortality at Caterham compared with that which prevailed at Leavesden, therefore, during these eight years was equal to 27·5 per cent. Stated in another way, it appears that during the eight years 389 deaths were recorded at Caterham that would not have occurred if the death-rate had not exceeded the rate prevailing at Leavesden. Throughout the whole period the death-rate at Caterham has shown a marked excess upon that at Leavesden, and the excess appears to be an increasing one. The mortality at Caterham in the four years 1871–4 only exceeded the rate at Leavesden by 6·9 per cent.; whereas in the last four years 1875–8 the excess has risen to 58·5 per cent. In 1871 the death-rate was equal to 177·8 per 1000 at Caterham, and to 153·4 at Leavesden. Since then the rate of mortality in each institution has pretty steadily declined, owing to a variety of causes. The rate of decrease of mortality, however, has been very different in the two institutions. At Caterham the rate of mortality in the latter half of the eight years was 14·5 per cent. lower than in the first half of that period, while at Leavesden the mortality in the four years 1875–8 was no less than 42·4 per cent. lower than that which prevailed in the preceding four years 1871–4. We have at any rate good ground for urging the Managers of the Metropolitan Asylum Board to arrange that the published vital and mortal statistics for these two institutions shall be published in such a form as to afford every facility for analysing them, and, if possible, ascertaining the causes of the remarkable difference between the death-rates at Caterham and at Leavesden. Most of the assigned causes for this difference can be disproved by investigation.

LOCAL HEALTH GOVERNMENT IN PLYMOUTH.

THOSE who read the recently issued report of Dr. Blaxall, one of the medical inspectors of the Local Government Board, upon the sanitary condition of Plymouth, may well be astounded at the sanitary degradation recorded in one of the twenty largest English towns. Equal astonishment must be felt that such utter disregard of the danger to be feared from filthy conditions has not led to more fatal results than those which are disclosed in the recent mortality statistics of the town. Surely the revelations of this official report will convince the most ardent supporters of local self-government that, in health matters at any rate, some central authority is necessary to put pressure on local authorities, to afford some security that their public responsibilities are not utterly neglected. The systematic neglect of their public health responsibilities by the Town Council of Plymouth is once more officially exposed, the present inspection being the fifth that has taken place since 1852. Will the Local Government Board allow the continuance of the past neglect? Or will the memorialists of Plymouth, at whose request the recent inquiry was held, be able to infuse sanitary vitality into the Town Council? Local action on the present report will be full of interest. A brief comparison of the mortality statistics of Plymouth and Portsmouth during the past nine years may help to stimulate local interest in health matters. In the nine years, 1870-8, the annual death-rate averaged 22·2 in Plymouth, against 20·1 in Portsmouth; in other words, in equal numbers living 110 persons died during those ten years in Plymouth, to each 100 in Portsmouth. Infant mortality too, in Plymouth, in the course of the nine years 1870-8, measured by the proportion of deaths under one year to births, averaged 163 per 1000; whereas in Portsmouth during the same period the rate did not exceed 144. Thus of 1000 infants born, 19 more die in the first year of their life in Plymouth than in Portsmouth. Such facts as these, in conjunction with those contained in Dr. Blaxall's report, should surely induce the ratepayers of Plymouth to take measures to secure more efficient sanitary government for their borough.

THE AFGHAN WAR.

THE last mail brings us tidings from the Khyber Army to the first week in February. Sickness was rather on the increase, especially in the native regiments, and amongst them the influence of previous residence in the malarial Peshawur and Kohat Valleys was very marked; the 1st Sikhs, a regiment composed almost entirely of a caste who do not eat flesh, being very weakly, they have lost a number of men from a low form of pneumonia.

At Dakka and Jellalabad detachment hospitals for native soldiers and followers have been established; Dakka, it is feared, will be very unhealthy when the hot season sets in; the inhabitants of the town and neighbouring villages suffer severely from remittent fevers and ague in the summer. The past winter in the whole Khyber Valley has been an unusually mild one; little rain has fallen, and no snow in the plains and valleys, although the adjacent hills are magnificent with their white coating. The diurnal range of temperature is very great; at midnight the thermometer stands at 21° inside a tent, outside, at noon, 81°.

On the 26th January an expedition consisting of three columns started from Jamrood, Ali Musjid, and Dakka, against the villagers and tribes in the Bazar Valley; although they met with trifling opposition, the enemy managed to inflict a loss to our side of one officer wounded, five Europeans and twelve natives killed and wounded. A section of the field hospital accompanied the Jamrood and Ali Musjid columns, and worked admirably. General and commanding officers are rapidly becoming converts to the general hospital system, its mobility, economy of transport, and general efficiency being more and more apparent.

CAB SCIATICA.

THERE need to be a series of new names invented to designate the diseases contracted from the luxuries and conveniences of modern life. Court-catarrh, court-bronchitis, and perhaps court-consumption will be useful to describe the combined effects of the dress and exposure inflicted by edict of the Lord Chamberlain at home, and reproduced for the sake of conformity, regardless of climate, in Canada. The physical and mental consequences of a tolerably constant round of attendances at receptions during the season call for special description, but these experiences are the class privileges of the upper ten. Meanwhile there is a not uncommon malady, less select in its incidence, to which public attention may be usefully directed. We allude to the variety of that exceedingly unpleasant affection, sciatica, which is wont to be contracted by sitting on wet cushions in Hansom cabs. The risk of this exposure is great, and the consequence grievous. Heated by a brisk walk, or hurrying from a heated room, the unwary of both sexes plunge headlong into Hansom cabs to escape a shower of rain, and encounter a demon of disease far more formidable than any ordinary drenching. A very little precaution on the part of cab-proprietors would suffice to reduce this risk to a minimum, if not wholly to put an end to it. Let the cushions of all Hansom cabs be covered with some waterproof material—for example, leather-cloth. It is the soaked

stuffing that gives off the "damp." It is always easy, if the traveller happens to think of it, to brush away wet from the surface of a waterproof cushion, but nothing can save an ordinary covered pad from becoming damp even when the weather is not particularly showery. The precaution of keeping the glass front down is useful as far as it goes, but practically it offers no sufficient protection.

SCOTCH CORPORATIONS AND THE MEDICAL ACT AMENDMENT BILL.

OUR correspondent in Glasgow writes:—"At a recent meeting of the Faculty of Physicians and Surgeons, Glasgow, a motion to petition against the Duke of Richmond's Bill was negatived, and an amendment was carried remitting the matter to the Council to watch the progress of the Bill, and take steps, if necessary, with the other Scotch corporations, to further or oppose its progress. While the Universities of Scotland give the Bill an unflinching out-and-out opposition, it seems doubtful if the corporations will be swayed in a similar manner, more especially when the general body of the profession decidedly favours the idea of a reform in the existing licensing laws and the establishment of a Conjoint Board for the different divisions of the kingdom. So far as the Duke of Richmond and Gordon's Bill embodies these two principles, it seems to be received, if not with enthusiasm, at all events pretty cordially, and the impression prevails among practitioners as a class that it ought to pass during the present session."

THE COMMISSION ON PLAGUE.

IT was understood that Surgeon-Major Colville and Dr. Payne would leave England on their mission of inquiry as to the plague on Tuesday evening last, and it must be presumed that they took their departure in due course. The College of Physicians, we believe, adopted the very judicious course of consulting its nominees as to the line of investigation the commission would prefer to pursue, having no suggestion of its own to offer. We are not aware that these gentlemen received instructions from any other quarter, so that they go out perfectly untrammeled, and it must be inferred that the primary purpose of the expedition will be to gather information for the Plague Committee of the College of Physicians rather than to further the interests of the community at large.

THE HEALTH OF RUSSIA.

IF we may judge from the accounts which are reaching this country, the public health in Russia would appear to have suffered disastrously during the war which has lately closed. It is not only that maladies, such as typhus, contracted by the armies in the Danube and in Asia Minor have been disseminated by returning troops and by prisoners throughout the empire, but that other maladies which peculiarly affect the poorer classes have been aggravated, apparently as a remote consequence of the disturbances of the ordinary conditions of life, by the large drafts upon the adult male population of the country to meet the needs of and supply the gaps in the armies in the field. From the recently published report of the medical department of the Ministry of the Interior we have some interesting facts as to the state of health of Russia in Europe in 1877. The population of the sixty-three provinces is estimated at eighty millions, and the rate of mortality from all causes during the year is stated at 32·5 per 1000, ranging from 39·4 per 1000 in the province of St. Petersburg to 30·7 per 1000 in the province of Perm. With regard to epidemic diseases, the following figures are given:—Small-pox, 10,287 cases and 2632 deaths; typhus, 50,446 cases and 5666 deaths; diphtheria, 46,136 and 18,698. Typhus was particularly prevalent in the provinces of Viatka and of Moscow, the mortality from the disease constituting 10·8 per cent. of the total mortality of the former province and 19·4 per cent. of the total mortality of the latter. The malady threatened to become very serious in the province of Nijni-Novgorod after the arrival of troops from Caucasia, but its progress was arrested by the sanitary measures taken. Relapsing fever, which had given rise in St. Petersburg to 4881 cases and 255 deaths in 1876, in 1877 caused 4293 cases and 280 deaths. Diphtheria underwent an extraordinary development. After six years' prevalence in Bessarabia, the disease is described as spreading in 1877 from that province into the provinces of Poltava, Podolia, Kiev, and Taurida. In the province of Poltava there were 13,512 cases with a mortality of 41 per cent. In the province of Voroneje the mortality reached 65 per cent. of the attacks. We have in a previous number had occasion to refer to the presence of "Siberian plague" in Russia in 1877, a disease which is dealt with in the source from which we obtain the above information as identical with "bubonic plague."

THE EXCRETION OF PHOSPHORIC ACID IN MAN AND ANIMALS.

IN Heft 3, Band 14, of the *Zeitschrift für Biologie*, Dr. Julius Bertram gives the results of numerous and careful experiments he has made upon the excretion of phosphoric acid, especially in herbivora, but also in man. He finds that when the herbivora are fed on their ordinary food the phosphoric acid set free in the metabolic process of the body is excreted, not by the kidneys, but in the fæces. If to their ordinary food be added large doses of acid phosphate of potash (PO_3, K_2H), phosphoric acid appears in the urine, and may rise to a considerable amount. Under these circumstances the phosphoric acid makes its first appearance in the urine when the lime ingested with the food is insufficient to combine with it. Hence it follows that lime is deficient in urine containing an excess of phosphoric acid, and also that the addition of large quantities of lime salts causes the disappearance of phosphoric acid in the urine. Phosphoric acid cannot appear besides or with lime in the alkaline urine of herbivora, whilst, on the other hand, the presence of magnesia does not interfere with its appearance in the urine. The cause of this difference of behaviour lies in the fact that carbonated alkaline fluids possess no power of dissolving carbonate of lime, but easily dissolve phosphate of lime. The deficiency of phosphoric acid in the urine of herbivora is conditioned by the large amount of lime and alkaline salts of organic acids contained in plants. In man the administration of citrate of potash slightly diminishes the excretion of phosphoric acid in urine, and greatly reduces the excretion of lime. A further diminution occurs in the amount of phosphoric acid excreted if some carbonate of lime be administered in addition to the citrate of potash.

ST. MARY'S HOSPITAL.

THE *conversazione* in connexion with St. Mary's Hospital Medical Society was held on Thursday, the 6th inst., in the board-room and library, with more than usual success. The visitors numbered about 200, and were received by the President of the Society, Herbert W. Page, Esq., F.R.C.S. Several glees and quartets were well rendered by the Hospital Musical Society during the evening. A principal feature was a large contribution of telegraphic and general electric apparatus, kindly lent by Charles Spagnoletti, Esq., illustrative of the block system; and also the tell-tale clock of the Burnly Sussex Asylum. A fine collection of photographs, the property of J. O. Griffits, Esq., Q.C., was kindly lent for exhibition; and also several ophthalmoscopic drawings by Dr. Hughlings-Jackson. Recent pathological

specimens from the hospital and numerous microscopical sections were shown by members of the staff and students of the school. Messrs. Lambert and Co., Messrs. Arnold and Son, and Messrs. Krohne and Sesemann, displayed some novelties in optical and surgical instruments.

ANATOMY AND PHYSIOLOGY AT THE ROYAL COLLEGE OF SURGEONS.

FOR some months past the Board of Examiners in Anatomy and Physiology at the Royal College of Surgeons have been engaged in considering the propriety of making some modifications in the written and oral parts of the Primary Examinations for the Membership and the Fellowship. They have, we believe, decided to extend the *viva voce* examination for the Fellowship to forty-five minutes. No changes will at present be made in the Primary Examination for the Membership. The examinations in Physiology are still under consideration.

MR. CORNELIUS WALFORD, author of the "Insurance Cyclopædia," has written to *The Times* to state that as far back as 1765 the "Honourable Friendly Society," established in Cambridge, insured a superannuation to its members who became blind. Several modern insurance companies have undertaken the risk, or at least announced themselves prepared to do so. But the rates of premium seem never to have been published, and these companies have now all passed out of existence. Mr. Walford thinks that there would be no difficulty in establishing insurances against blindness.

THE Lord President has consented to receive a deputation of the Council of the Obstetrical Society this (Friday) afternoon at 4 P.M., at the office of the Privy Council, in reference to the clause in the new (Government) Bill relating to midwives.

REPORT
OF
The Lancet Special Commission
ON
THE DISTRESS IN LONDON.

SO MUCH has been said concerning the distress in the metropolis, and its prevalence is so intimately connected with the health of at least the poorer sections of the population, that it may not be out of place to describe a few typical cases. The persons affected are too often artisans and steady workers who deserve a better fate, and seriously compromise their health by refraining from applying for relief. Indeed, the stubborn and, to a certain extent, the natural resistance to the Poor-law system of relief has probably accelerated disease. The head of a family, when reduced by illness and want, will sometimes apply for relief, but when he is offered "the house or nothing" he prefers his liberty and his poverty to breaking up his home. He waits till his illness has assumed a more serious aspect, till other members of his family are afflicted, and then, when resistance is no longer possible, falls at last on to the parish, and the expense of this aggravated case is far greater than that which would have been incurred if a little timely assistance had been forthcoming during the earlier stages. Where there is no illness at all, the determination not to enter the workhouse is more emphatic, and the poor will wait till their misery has resulted in disease rather than undergo the hard labour and the humiliations inflicted on able-bodied paupers. Where illness is sufficiently marked to ensure admittance into the workhouse infirmary there is less scruple in applying to the guardians; but it costs the ratepayers far more to nurse sick paupers than to relieve the able-bodied poor, while the depressing influence of the struggle against poverty that precedes the consequent sickness is fraught with all manner of dangers to the health of the public at large.

In illustration of these general principles, we will describe a few out of the many cases we have recently investigated. Thus we questioned a painter and house-decorator living in Eagle-court, Holborn. He was thirty years old, married, and father of three children. Up to the 2nd of October last he had been at work, but had only earned half a crown since that date. After having sold all he possessed, he was compelled to live on the charity of his mother, whose income depended on a mangle and seven young lodgers living in her house. His food was limited to bread and butter or dripping, a little tea, and a very little meat on Sundays, though the critical condition of his health seemed to indicate a want of nourishment, and a recommendation for food was given him by the parish doctor. His children also lived on the little bread their grandmother could spare them. One has rickets, and another is dead. This man, we should add, boasts of a good character, and has worked for some of the best firms in London, earning the eightpence an hour generally paid in his trade. A pound a week would scarcely be sufficient to meet this case, but the probabilities are that the patient will only receive some medicine and a miserable dole of food from the parish, which will serve to whet rather than satisfy his appetite, to say nothing of his half-starved children.

A tailor, whose skill may be estimated by the fact that in more prosperous times he had earned as much as fifty shillings in a week, complained that during some weeks recently he had made only seven shillings. He consequently exhibited signs of great distress; and in the midst of his poverty he met with an accident which increased the need of strengthening food. We then visited the house of a compositor, who had been out of work for six or seven weeks. His wife and five children were all in the one room he inhabits, and for which he pays three shillings and sixpence a week rent. Last week the husband had earned, by an odd job, eight and sixpence; the children, whom we questioned one by one, related that they had had a little meat three days ago! Everything of value was sold, and that morning a futile attempt had been made to raise the price of a loaf by the sale of three common dinner plates, the last remnants of former prosperity. The children did not as yet exhibit any very marked symptoms of starvation, but their mother was too weak to get up from her bed; and attributed her sufferings, with some show of reason, to absolute want. She declared that she did not object to going to the workhouse, as she longed for quiet and some food, but the husband protested that there would be no one to take care of the five children. To render matters worse, the atmosphere of this overcrowded room was excessively foul; but the lack of animal warmth due to the want of food made this unhappy family keep the window carefully closed, though they had amongst them scarcely more than 1200 or 1300 cubic feet of air to breathe. It will be seen, therefore, that the conditions calculated to favour the outbreak of epidemic disease were all united in this miserable place.

The unsatisfactory sanitary condition of the lodgings often adds to the dangers arising from poverty and ill-health. In one of these we found a man who had been suffering for thirteen weeks with erysipelas of the leg living with his wife and four children in one room. His eldest child was sixteen years old, and earned 3*s.* 6*d.* a week at a button factory. From the parish he received two loaves, 1 lb. of sugar, 1½ lb. of rice, and ¼ lb. of tea. Under the advice of the parish medical officer 4 lb. of meat per week was allowed for a little while, and half a pint of milk per day. But if this patient absorbed all these resources himself and left nothing at all for his wife and four children there would not be sufficient. These latter are feeble in health, and are subject to boils. The dirty, overcrowded condition of the room was most objectionable, and the whole circumstances of the case called for some active intervention on the part of charity and the sanitary authorities.

In Green-street we entered another overcrowded room where a man and wife and four children lived all together. The woman was pregnant and in urgent want of food, but the children, whom we questioned separately, all concurred in the declaration that they had not enjoyed a regular meat dinner since Christmas. They occasionally obtained a little pea-soup from the Gray's-inn School, and had, at the time of our visit, potatoes and dripping boiling on the fire for their midday meal. The woman was attempting to wash some linen, but was so weak and ill that she had to sit down instead of standing over the work. One of the boys was covered with boils.

Leaving the Holborn district we next penetrated some of the worst courts in St. Giles's. It may be objected, however, that the population is less worthy of sympathy in this district, as they comprise a large element of "cadgers" and professional beggars. Nevertheless, even in Lincoln's-court, Drury-lane, we found some very respectable persons whose sufferings should not be passed in silence. There was notably a house-decorator who was in a serious condition, ill with bronchitis and dropsy. His worldly goods consisted of a small mattress which lay on the floor, two dirty sheets, and an old chair with the bottom out. Here he lived with his wife, from whom he refused to part, preferring his present misery and her company to the comparative luxuries that would be given him in the workhouse infirmary. He owed three months' rent, but as he had lived under the same landlord, though in better quarters, for eleven years, he had not been troubled on this account. He had never been in distress before, and had put some of his earnings in the savings bank.

In the East-end cases of destitution and of sickness arising from insufficient food are even more plentiful. It suffices to visit the ragged schools to discover a number of underfed anæmic children. Tracing these children to their homes will disclose conditions altogether antagonistic to the interests of public health. Overcrowding, dirt, obstinate resistance of all attempts at ventilation, combined with starvation, are the causes of innumerable premature deaths and many preventable diseases. These homes are often only visited by the humbler class of missionaries, whose religious zeal fails to compensate for their general ignorance of sanitary matters. Indeed, a body of sanitary missionaries would render the greatest service; if they would visit one by one these hovels, teaching the virtues of pure air, cleanliness, and the chemical properties of alimentary substances, which are wasted by those who most need cheap food. On one or two occasions the condition of the persons we visited was such as to warrant the immediate interference of the sanitary authorities. Thus in Booth-street, Whitechapel, we found a family living in a washhouse. The father, a mat-maker by trade, could do no work, his arm being crippled by rheumatism; his wife, who used to make horsehair coverings for furniture, had now nearly lost her eyesight, and was unable therefore to help. During a month they had received 5*s.* 6*d.* from the parish clergyman, and they had lived on this and on the sale of all they possessed. To reduce their expenses they removed to the washhouse in question, where the rent charged is only eighteen pence per week. The floor consists of a few stones roughly fitted over the earth, the mud rising and oozing up between them. The door, more like a barn-door, shuts most imperfectly. The sink is close to the bed, and, as the stopper of the pipe has been lost, there is nothing to prevent the foul smells coming into the room. There is hardly any furniture left, and the damp is at once perceptible. Such a place is utterly unfit, and was never meant, for a human habitation. That the children who live here with their parents should be in ill-health is no wonder. The man objected to the workhouse on the ground that he would be separated from his children, and protested that he could not be expected to have saved money on his slender earnings when struggling against the competition of prison labour in the production of mats, and considering the large family he had to keep.

In Angel-alley we found a cobbler who had been compelled to leave his ground-floor lodgings, where he was able to hang up his boots at the window and attract a little custom, for a cheaper room upstairs. This place was remarkably clean, but on all sides there were evident traces of want. Meat, and that only "cheap scraps," was but a rare luxury. The father was ill with congested liver, and one of the children in a very anæmic condition, and there were symptoms to indicate the earlier stages of phthisis. This family had not lost their dignity or sense of self-respect. The cobbler only hoped for some friend who would help him to buy some old boots and a little leather, so that he might patch them up and sell them again. In the best of times he had earned only twenty-three shillings per week, and, with a family to keep, could not be expected to save much money. A pound would buy a sufficient stock-in-trade to set this man afloat again, and would be by far the cheapest form of relief. On the other hand, if his distress continues much longer, there will be two or three more expensive patients for the workhouse infirmary. Next door, there is a stone-sawer, who has eighteen years' good character to give, but has been out of employment for a long time in consequence of the slackness of trade. The parish clergyman gave him one day's work, and paid him a shilling for it; the Charity Organisation Society gave him five shillings and sixpence while they inquired into his case, which they ultimately nonsuited. In despair he sent his key to his landlady, and determined to wait better times in the workhouse; but she refused to accept it, and gave him a little house painting to do in payment of rent. This workman and his family are healthy, but cannot hope to continue in this condition unless work or relief is forthcoming, and, as he is a man fully able to help himself in ordinary times, it would be wise not to allow any of his family to become a permanent burden by the introduction of any of the diseases that follow in the wake of starvation.

The master of the ragged school in George-yard, Whitechapel, pointed out to us several children who frequently arrived to attend their class in so evident a state of exhaustion that he is compelled, out of sheer pity, to provide them with some breakfast. The ravenous way in which these children will devour the plainest food, the driest bread, proves the urgency of their want; and the persons who assist in defraying the expense of these meals argue that in feeding helpless children they prevent disease. Distributions of bread and cocoa, soups, &c., to adults are also justified by a similar pleading, but are more open to the objection that they encourage begging and develop pauperism. The difficulty of drawing the line assailed us on all sides, and we noticed a fatal tendency to extremes and special pleading. A local clergyman, who holds a high position and has intimate knowledge of East-end poverty, was in a state of great apprehension lest by giving publicity to the cases of poverty existing in his parish we should bring down some benevolent people who would destroy all his work by insisting on giving alms. When we pointed out the dangers that might arise from insufficient food, he insisted on the evils of drink, declaring that even tickets for meat or bread were converted into cash, which was spent at the public-house. The policy of denying food for fear the recipient should drink is not, however, calculated to maintain the health of the population. On the other hand, we have Mr. Charrington, who distributes almost indiscriminately bread and cocoa twice a week to about a thousand persons, seizing, in exchange, this opportunity of expressing before a large audience some of his religious views. All these deeds of charity would, however, come with more grace, and give rise to less animosity and opposition, if the love of proselytising were kept more in restraint, and if the advice accompanying the distribution of alms were of a more neutral tone. A few scientific truths on the elementary principles of hygiene, the economy of food, the conditions of the labour-market, the fields open to emigration, &c., would perhaps be more appropriate than the attempt to spread religion with bread and butter. Thus, following one of the children from a ragged school to her home, in a row of diminutive cottages situated to the south of Commercial-road, we found a good display of cant flourishing in the foulest atmosphere. The cottage consisted of two rooms, one above the other, and the whole family of six persons slept in the upper room. It was in vain that we pointed out the advantages that would result if some of the family slept down stairs. There were draughts in the lower room, and this was quite sufficient excuse for any amount of overcrowding. The water-butt, placed between the closet and the dustbin, we suggested should, at least, be carefully covered, and we hinted that some of the water might be used to clean the floors and wash the linen of this very dirty household. All this, however, seemed very unfamiliar doctrine, and the advice was evidently regarded merely as the expression of an eccentricity. On the other hand, the children could repeat in doggerel rhyme every one of the names of the books of

the Old Testament! Far be it from us to insinuate anything against the earnest religious convictions which lead missionaries to visit these wretched homes; but it is impossible to inquire into the distress without feeling that more care has been taken to progagate dogmas concerning the soul than facts concerning the body. The want of what we would call sanitary missionaries is the one fact that has more especially impressed itself on us during these investigations.

Leaving Whitechapel, and approaching the docks, we found more distress among those connected with the shipping trade. We visited, for instance, the home of a man who had kept lodgings for sailors, and had been in very easy circumstances. He had now, however, been compelled to give up his house, and was living, with his wife, his four children, and their grandmother, in a single small back room, that scarcely contained 900 cubic feet of air.

Among unmarried women and widows the distress is naturally very great. There is but little sewing to be done, and a general falling off in all demands. We met several skilled sempstresses and umbrella trimmers who had found it impossible to get employment this year, and who exhibited marked symptoms of exhaustion and wasting of muscular tissue. One girl, a skilled worker, had only been able to earn 3s. 6d. a week at umbrella trimming. She was an orphan, was weak in health, and lived with an old woman of eighty, who had adopted her, but could not help, as she was herself in receipt of parish relief, and therefore as poor if not poorer.

Objection, of course, may be raised to the typical cases of distress which we have described on the ground that similar instances may always be found in a large town like London. But we would urge that they are rarely so general, and that this is proved by the testimony of tradesmen in poor quarters, by the overcrowding of the workhouses, and by the facility with which we have discovered in all parts of the metropolis the most harrowing cases of starvation. These are not always, happily, so self-evident nor so worthy of sympathy. Immediate relief is the cheapest of remedies. Nothing is more costly in the long-run than to starve a population, particularly as this prepares the ground for epidemic disease, which may spread from the starving to the rich. Perhaps, also, these facts have special import at this moment, when the plague is reported to be travelling westwards!

THE CONJOINT EXAMINATION SCHEME FOR ENGLAND.

THE Committee of Reference appointed in accordance with the Conjoint Scheme of the 1st of May, 1877, approved by the General Medical Council, have just finished their preliminary labours and presented their report to the co-operating medical authorities. The report is divided into three parts: the first containing the proposed regulations relating to the professional education and examination of candidates; the second, the proposed regulations relating to examiners and the conduct of examinations; and the third, the regulations relating to the payment of examiners and other expenses of examinations. Although it is not likely that any action will be taken on this report until the fate of the Government and other Medical Bills now before Parliament is decided, a brief summary of the contents of the report may not be unacceptable.

Few material changes are proposed in the curriculum of study. Lectures on chemistry and on botany may be attended before registration as a medical student. Only one course of lectures on anatomy, during not less than six months, will be compulsory; but dissections must be practised for not less than twelve months. Lastly, attendance at a course of lectures on the principles of public health will be required.

As to the examinations, it is proposed that there shall be three professional examinations instead of two, as heretofore, each being partly written, partly oral, and partly practical. The subjects for the first examination will be chemistry, materia medica, medical botany and pharmacy, and osteology; for the second examination, anatomy and physiology; and for the third, or final examination, the principles and practice of medicine, including medical anatomy and pathology, the principles and practice of surgery, including surgical anatomy and pathology, and lastly, midwifery and diseases of women. Every candidate who shall have passed the third or final examination is, subject to the bye-laws of each licensing body, and the provisions therein contained, entitled to receive the licence of the Royal College of Physicians, the diploma of member of the Royal College of Surgeons, and the licence of the Society of Apothecaries. It is recommended that the first examination be held at the Apothecaries' Hall, the second at the Royal College of Surgeons, and the third, or final, partly at the Royal College of Physicians, and partly at the Royal College of Surgeons. Respecting the admission of women to the conjoint examination, the committee suggest that the scheme should contain a clause providing that any of the co-operating medical authorities willing to confer on women its degree, diploma, or licence may require the conjoint examining board to admit such women to examination; but such women shall not, on passing such examination, be entitled to claim a degree, diploma, or licence from any authority other than that requiring them to be examined.

The Committee recommend the appointment of forty-eight examiners—five each in chemistry, materia medica, anatomy, and physiology, eight in midwifery, and ten each in medicine and surgery; the three co-operating authorities each to appoint sixteen examiners. By this plan the Royal College of Physicians will have more or less examiners in all the subjects, the Apothecaries' Society in all but surgery, while the Royal College of Surgeons will have examiners in the four subjects of anatomy, physiology, surgery, and midwifery only. The examiners are to be nominated by the Committee of Reference, and to be appointed by the several co-operating authorities. The members of the Committee of Reference are to act as visitors of examinations. The number of written questions on each subject will, as a rule, be six; the time allowed for each paper being three hours.

As respects the payment of examiners, the Committee recommend that at first the examiners be not paid by fixed annual sum, but by percentages on the total sum available for the payment of examiners and other expenses of the examinations—that is, half the total sum received as fees for the examinations. The amount would be thus apportioned to the examiners in chemistry 5·75 per cent., to those in materia medica and in osteology each 7·25 per cent., to those in anatomy and in physiology each 8·75 per cent., to those in medicine and surgery each 21·5 per cent., and to those in midwifery 12·5 per cent., the incidental expenses of the examinations taking up the remaining 6·75 per cent.

ROYAL COLLEGE OF PHYSICIANS.

AT a meeting of the Fellows of the Royal College of Physicians, held on Thursday last, the proposed regulations of the Committee of Reference on the Conjoint Scheme was considered. After a long discussion, the first part was adopted, but the consideration of the second and third parts was postponed until Saturday, the 15th inst.

ROYAL COLLEGE OF SURGEONS.

AT an ordinary meeting of the Council of the Royal College of Surgeons held on Thursday last, the President made a statement respecting the new (Government) Medical Bill, to the effect that the question of the revision of the Medical Council will be considered by a Select Committee of the House of Commons. He also called attention to

the vagueness of the Bill as to the security of funds for the support of the museum, &c., and suggested that the surplus funds should be restricted to the support of museums and libraries already existing. It was resolved that the President of the College be requested to communicate with the Lord President of the Council.

The report of the Committee of Reference on the proposed regulations for the Conjoint Examination Scheme of the 1st of May, 1877, was presented; but its consideration was deferred until the fate of the new Bill is known.

The desirability of preserving comparative anatomy as a compulsory subject in the primary examination for the Fellowship was, after a long discussion, referred to a committee. Permission was given to Mr. Hancock to withdraw his motion for a committee to consider the institution of examinations in chemistry, materia medica, pharmacy, and midwifery until the Bills be settled. Sir James Paget's motion, that rejected candidates must, on re-examination, pay at least such fee as will cover the expenses of re-examination, was referred to the Committee on the Bye-laws.

THE PLAGUE.

No new case of plague has been observed within the infected area on the Lower Volga since February 9th. The combined German and Austro-Hungarian Commission is pursuing its labours in collecting data relating to the outbreak, and conferring with the Russian medical staff engaged in the locality on the execution of the various measures now being carried out to prevent any recurrence of the disease. Dr. Bessiadetsky, the Austrian Commissioner, arrived at Vetlianka on the 3rd March, accompanied by Messrs. Kiemann and Klineberg of Vienna, and Sommerbrod of Berlin. It is anticipated that the internal sanitary cordons—those surrounding infected villages—will presently be relaxed. Meanwhile the measures requisite for putting the villages in a better sanitary state are being pushed on energetically. The condition of the places as to filth is described as deplorable in the extreme, but already a marvellous change for the better in this respect has been brought about. The burning of infected houses is not being carried out indiscriminately, nor are whole villages being committed to the flames, as at first reported. Only such houses are destroyed by fire as the medical commissioners appointed to the duty report to be beyond the reach of less drastic means.

Cases of sickness of a doubtful nature are still reported from various parts of the empire, and it would seem as if, in the present state of popular feeling on the subject, every exceptional or serious phase of disease were at first reported as "plague." Professor Botkine adheres to his opinion, notwithstanding the weight of official medical opinion to the contrary, that the case of disease which has excited so much attention in St. Petersburg is a mild case of the Astrakhan disease—in other words, of plague. He has addressed a letter to the Russian press on the subject, from which we take the following:—

"In the course of this discussion I have stated several times that the development of plague in Russia so largely as the disease had been observed in previous centuries was little likely. I have expressed an opinion, moreover, in sittings of the Medical Society, as also in my lectures at the Academy of Medicine, that the epidemic might appear in many parts of Russia, and a greater or less number of cases occur, without the disease presenting any very serious character either as to its mortality or its contagiousness. I have more than once had occasion to demonstrate in my clinical course, as well as at the Medical Society, that cases of typhous disease were undergoing a certain change, marked by petechiæ in eruptive as also intestinal typhus, and by more or less acute swellings of the lymphatic glands of the groin and armpits, and morbid changes, difficult to define, of the liver and spleen. In view of cases of this kind I have more than once stated that the epidemic of plague was already among us, but, from conditions unknown to us, the disease did not show itself in all its ordinary forms, and its contagiousness was not manifested.

"On the 25th February I examined, in presence of my class, Harum Prokofiew, who exhibited all the appearances of plague in its least grave form. This man was attacked with an acute malady, accompanied by a swelling (in less than a day) of the lymphatic glands of the left groin, which burst of themselves twenty-six days after. In the course of the twenty-eighth day the fever, which had diminished, returned with redoubled intensity, the glands of the right groin became swollen in a single night, and very painful. When the patient was examined on the 25th February there were found on the skin petechial spots of divers colours, some being of a bright red, others—those principally on the hands—of a bluish colour, and others again reddish-brown. Lastly, on the skin of the abdomen, among the petechial spots, there were three small pustules of the size of a pin's head, evidently formed on previous spots. The urine contained albumen (in the night of the 28th February and 1st March the albumen disappeared), and during the night of the 2nd March an herpetic eruption appeared on the upper lip and nose; the temperature was 39·2° C. (102·2°); pulse 120; respiration 24."

Professor Botkine then states that the symptoms of constitutional syphilis, which were to be observed in the patient, were of ten years' standing, and an open wound which gave signs of this taint of three years' standing; but the indications of the acute infection, which he believes to be a mild form of plague, were quite distinguishable from and ought not to be confounded with the constitutional affection.

Correspondence.

"Audi alteram partem."

THE DISEASE AT ASTRAKHAN.

To the Editor of THE LANCET.

SIR,—At a recent meeting of the Epidemiological Society I was called on by the President to make some remarks after the reading of two very interesting papers on the plague said to be prevailing in Astrakhan. As what I did say has been imperfectly reported, permit me to state that the purport of my remarks on that occasion was to the following effect:—

That the paper by Dr. Dickson would, I hoped, tend to allay anxiety, and mitigate undue apprehension of danger from the spread of the disease. That I had no personal experience of plague, but, like others, had read of it as it occurs in Egypt, the Levant, and India; and that some years ago, when in Cairo, had had the advantage of long conversations with Clot Bey on the subject, who told me that, after large experience of the disease in Cairo, confirmed by that of his colleagues, he had formed a decided opinion that personal contact with the subjects of plague, whether in life or after death, with the clothing, by post-mortem examination, or even by inoculation of the virus of buboes (he experimented on himself), was not attended with danger; and that quarantine and *cordons sanitaires* were inefficacious in controlling the spread of the disease, which, being due to atmospheric influences, was not affected by such measures. That sanitary precautions, in reference to the prevention of crowding, filth, &c., were of the highest importance; but that these conditions, if existing, would not *originate*, though they might *intensify*, the disease, when it did appear.

I was careful to say that, though inclined to agree with this eminent authority on the subject of non-contagion, I would not venture to go so far as he did and assert that the spread of plague, of the real causes of which we are still ignorant, might not be controlled by wise sanitary measures—indeed, that this is the very subject about which we especially need information, and should make inquiry; and whilst attaching the utmost importance to perfect sanitation, I should still be glad to think that the vexatious restrictions of quarantine, as sometimes understood, were avoided, and that more scientific measures than cordons that are liable to

be evaded, and "irrational derangements of commerce," such as are still practised under the name of quarantine in some ports, should be resorted to.

Desirous as anyone to prosecute inquiry into the true nature, etiology, pathology, and mode of propagation of a disease about which we are still very imperfectly informed, and believing thoroughly that all reasonable sanitary and preventive measures dictated by modern science should be put in operation in this as in all epidemic diseases, I yet deprecated unnecessary publicity and needless alarm, feeling assured that preventive and protective measures could be taken in this country that would be amply sufficient, even should plague (which is most improbable) extend to our coasts. The following extract from a letter recently received from a passenger on board an outward-bound steamer from Brindisi to Alexandria will illustrate what I venture to think is an *irrational* mode of dealing with the subject, and shows how great must be the dread of infection when it puts a ship coming from India *vid* the Red Sea to Italy into quarantine because the plague has appeared on the banks of the Volga:—

"Brindisi, March, 1879.

"I write, not with any idea that the letter will ever reach you. The quarantine rules are very strict; we are now lying outside Brindisi, with two men in a boat watching us, for fear anyone should rashly try to land. Even if we succeed in getting our letters on shore, they will be not only fumigated, but cut open, so that it is extremely doubtful whether they ever reach their destination. There are now on board six mail bags full of letters from India, which the captain says he has been quite unable to get rid of. They have refused them both at Brindisi and Venice. Some of the quarantine adventures are most funny. The ship brought away from Alexandria an Arab pilot, meaning to leave him at Brindisi to get back with the next steamer. The man has been three weeks on board, and is entirely refused permission to land anywhere. He has made up his mind that he shall never see his family again, and now and then is found crying piteously."

My correspondent's apprehensions have not been altogether realised, for the letter has reached me, and let us hope the six bags of Indian letters have been distributed, and the Arab pilot restored to his family. But is it expedient, even if plague be ever so contagious, to extend these regulations to ships that have sailed from ports where the disease does not exist, and so derange the whole traffic, compelling passengers to incur the delay of an extended sea-voyage by Gibraltar and the Bay of Biscay to avoid sixteen to twenty days of quarantine in an Italian port?

Yours faithfully,

Granville-place, March 11th, 1879. J. FAYRER.

HOSPITAL STATISTICS.

To the Editor of THE LANCET.

SIR,—Since my return, last week, from America, my attention has been directed to certain statements in an article of mine in the last volume of St. Bartholomew's Hospital Reports. The article was printed during my absence from England, and I regret very much I was thus unable to look over the proofs; otherwise, I think it is evident, seeing that I refer in the next paragraph to a case of blood-poisoning, and again make mention (p. 193) of this case of blood-poisoning after amputation at the hip-joint, that I must have corrected the statement that there had not been a single case of pyæmia amongst the patients under my care. I greatly regret that I have omitted a case of blood-poisoning which was associated with osteo-myelitis and trephining of a bone. The omission was accidental. Referring to other cases, I may state that a femoral hernia was admitted December 17th, 1873, and contracted blood-poisoning between that date and the 30th of the same month. This case I narrated under the head of "Septicæmia" in the tenth volume of our Reports. As I had told the story of the case in connexion with the year 1873, the year in which the poisoning, if any, occurred, I did not include it with the cases of 1874. With reference to the cases of erysipelas, a dental case, Oct. 10th, 1873, is mentioned by me in the Hospital Reports, vol. x., p. 138. It should be added to the fatal cases of erysipelas. It should be stated, p. 185, that the amputation cases cover a period of eight years and three months. Amongst the tumour cases should be given that of a woman, aged seventy-two (described in the Hospital Reports, vol. x., p. 150), who sank after the removal of a large chronic mammary tumour; and amongst the operations upon bones should be included the case of osteo-myelitis previously referred to. There are some other corrections I should have made in the paper if I had had the opportunity of revising the proofs, but those I have mentioned are of chief importance, and I take this opportunity of referring to them, and, so far as I now can, of correcting the article.

I venture to trouble you with this note, as so long a time must elapse before I could make these corrections in the next volume of the Hospital Reports.

I am, Sir, faithfully yours,

March 1st, 1879. GEORGE CALLENDER.

WILLIAM HARVEY.

To the Editor of THE LANCET.

SIR,—Since your article upon the celebrated Dr. Harvey, in THE LANCET of Nov. 30th, 1878, I have tried to make some little inquiry as to the probable removal of his remains, and am informed that there is no chance of the family allowing them to be removed from the position that they have occupied since June 26th, 1657.

Another idea presents itself to me. The author of your article speaks of the Harvey sepulchral chapel as a "handsome little ruin," but fails to mention the far greater ruin that stands beside it—the church itself,—in comparison with which the chapel is really in good repair.

Would it not be a noble and worthy purpose, as a memorial to so celebrated a gentleman, for the country to thoroughly restore this fine old church? The churchwardens and I are arranging to attempt a little more patching up, as we are conscious that the district is far too poor to do one tithe of what is required, and more especially during the present depression of agriculture. The roof and tower are both in a bad state, the bells require rehanging, and the whole church (except the chancel, which was done a few years ago) requires reseating, to say nothing of many little detail matters.

If you, Mr. Editor, or the author of your article, or both, should think this plan practicable, and could fall into it, I shall be pleased to hear from you, and shall be glad to take the matter in hand.

In this way the Doctor's name would be honourably commemorated, God's glory worthily extolled, and several generations of humble worshippers here would bless the efforts that resulted in so good a work.

With due apologies,

I am, Sir, yours faithfully,

JOHN ESCREET,

Hempstead, Saffron Walden, March 11th, 1879. Curate in Charge of Hempstead.

TREATMENT OF TRACHEOTOMY CASES.

To the Editor of THE LANCET.

SIR,—In the report of the discussion at the Clinical Society on the 28th ult., on Messrs. Lawson's and Pugin Thornton's cases of Diphtheria, published in THE LANCET of last week, I am made responsible for the opinion that a temperature of 65°F. was likely to prove debilitating to the patient. As the point is one of considerable importance, and is likewise attracting special attention at the present time, I seek your permission to allow me to rectify the above statement, which was not made by me. I directed attention to the fact that I had frequently found the temperature in curtained cots, heated by steam, raised to 75°, or even higher, and that I considered such an atmosphere very unwholesome and weakening, and liable to enfeeble the patient's muscular power. I stated that *any point above 70°* was quite unnecessary for the conduct of the case. The facts elicited in the discussion went to prove that a temperature of 65° was even preferable; and it will be well that more attention is in future directed to this feature in the treatment of these very grave cases.

I am, Sir, your obedient servant,

DYCE DUCKWORTH.

Grafton-street, Piccadilly, 10th March, 1879.

THE AFGHAN CAMPAIGN.

(From our own Correspondent.)

As many of the readers of THE LANCET will care to know how medical affairs get along during this campaign, especially as the "general" system has been given a trial now in India for the first time (and at a moment's notice), I shall give you some details of the recent expedition to the Bazar valley from a medical standpoint.

This expedition was intended, among other things—first, to survey a district in the Suleimans as yet comparatively unknown; second, to ascertain the suitability of the Teerah plateau, close to Bazar, as a hill station and sanitarium; third, to impress the Afreedis of the district, and correct some of them for misbehaviour. They are the Kukka Keyls, an unfriendly tribe, and concerned in the recent theft of telegraph wire from the line just put up along the Khyber Pass.

Such, according to camp "gup," were its objects, and I may here say by anticipation that No. 2 did not come off for various reasons, political and of supply; but notwithstanding it appears little doubtful but that the destiny of the Teerah table land is to be the great hill station of the North-west. It is very extensive, of great fertility, and being 6000 to 7000 ft. high, climate and productions are all that can be desired. It will feed itself and have to spare, and, looking down the vista of not many years, I see potatoes and other vegetables passing down the Teerah slopes to the unfortunates whom duty compels to live in the Peshawur valley during the hot months, for it is only about five marches from Peshawur, and a decent road will bring it still nearer. Then as a military post it will be first-rate. In no better or quicker way shall the tribes be made to feel who is their master than by the establishment of a large garrison right among them. Indian events are marching so fast now that I do not doubt that all this is in the near future.

The force for the Expedition was mainly supplied from the Second Division, now at Jamrood, Lieut.-General Maude, V.C., commanding, but there was also General Tytler's brigade of the 1st, which came from the front and joined the others at Bazar. Your readers will find in the dailies an enumeration of the various regiments and corps. The total cannot have fallen far short of six thousand men, if the crowds of followers—those unmitigated nuisances of Indian field service—are included.

Surgeon-Major Hanbury, the officiating principal medical officer, made the following arrangements:—A section of the field hospital, in medical charge of Surgeon-Major Wright, able to deal with thirty-two patients, accompanied the force. The carriage for the section was in the shape of camels. Each corps took out a tent for light cases, and another for medicines and the medical subordinate or apothecary, and 5 per cent. to strength of doolies. Five camels were required by each corps for its hospital carriage, but of these the dooly-bearers or kahars took up three, as tents for them and their warm clothing (at the rate of 10 lb. per man) had to be carried. The regimental medical establishment was, therefore, of sufficiently contracted dimensions, as two camels only were able to carry it. Thirteen for each corps would have been necessary had the regimental hospital system been still adhered to.

I have already said the followers of an Indian force are a nuisance. To the medical officer his kahars are an unending worry. Their noisiness, filthiness, helplessness when the pinch comes, laziness, and unspeakable stupidity, make us cry out for deliverance from them. When shall we in India have light ambulances instead of the bulk of these plagues? A few doolies with really trained bearers would then suffice for each corps. As it is, their tents, their warm clothing, and their rations constitute a formidable encumbrance to a moving force; but of course in this expedition, through a country without roads, the kahar was indispensable.

The force left Jamrood on the 24th January. On the 26th it camped at Barakus, where a town was burnt, owing to which probably the camp was fired into during the night from the hills above, but with no other casualties than those of a horse and a mule killed.

The next day a very large tower at Boorg was blown to pieces, and the whole force found itself the same evening at the near extremity of the Bazar Valley. The camp was soon found to have been pitched uncomfortably near the hills, for dusk had hardly set in when it was fired into from all round. The 25th Foot appeared to have got the hottest corner, as one man was shot in the back whilst sitting eating his dinner in the tent. The ball entered about the angle of the sixth rib, glanced along it, and came out close to the spine, fortunately superficial in its course throughout. He was the first admission to the field hospital, and did well.

The firing from the hills was kept up all night, vigorously replied to by our pickets. The casualties were: One killed of 25th, shot through the head, ball entering through right parietal ridge, and passing to opposite side, where it lodged after fracturing the bone at this point. The man lived, but unconscious, for thirty minutes. Another of 25th of the same picket severely wounded. The ball entered behind and three inches below the right shoulder, passed across the posterior wall of the axilla, and pursued a long course, making its exit eventually just above the spine of the left scapula. There was little hæmorrhage. He is doing well, and had very little fever considering the length of the wound (sixteen inches).

The next day was spent in searching the range whence the 25th was assailed. A large party left an hour before daybreak, but the covers were drawn blank, so to speak. To have been successful the cordon should have been formed even before this time, as after 2 A.M. the Keyls always ceased firing to get away before daylight. In the afternoon the camp was shifted into the puddle of the valley, and sangas, or stone breastworks, thrown up for protection of pickets.

The Keyls began their firing at half-past seven exactly; they are mostly armed with Enfields taken from the Amir's troops. A few bullets came into the camp, but nobody was hit.

On the 28th of January a reconnaisance was made by a large force towards the Bara valley and Teerah. As the Keyls had their families and flocks in this direction they made a determined opposition. There were five casualties: A gunner had a ball through the fleshy portion of thigh, external to the vessels fortunately. Similar good fortune befell an officer of the 4th Goorkas, the ball passing through the gluteal muscles without touching any bony part. A kahar also escaped with a flesh wound of the leg. But the next injury proved fatal. A Goorka was struck down close to where the General and staff were standing. The ball passed through the scrotum, and thence into the left thigh, dividing the femoral vessels, and passing out posteriorly. No attempt was made by anyone near to stop hæmorrhage. Surgeon-Major Hanbury, who was with the staff, hastened to the spot, and tied the artery in the wound; but the loss had been too great, and the man never rallied. The remaining casualty also proved fatal. A kahar was hit in the neck. I have not been able to ascertain its exact nature, but death was from secondary effects of the injury.

The firing on the pickets was less continuous during the night. On the 29th a portion of the force proceeded in the direction of the previous day's contest, blew up two large towers of a village whose inhabitants had contributed combatants to the fight. These so-called villages are merely collections of caves dug in the alluvial deposit which lies thick along the sides of the valley wherever there happen to be a nullah and water near. At a short distance one or two towers of stone and mud alone denote the presence of human beings. From these the hillmen watch and give the signal to the swarms hid below, either to flee to the mountains or sally forth for loot. On this occasion they were well prepared, and from the hills adjoining, which are about 600 feet high, the bullets came whistling over the force as it approached the towers. But the heights were quickly taken without loss, though a man of the 25th had a narrow escape. The ball struck obliquely over the abdomen after passing through his ammunition-pouch and destroying two rounds. Fortunately it impinged first on the plate of his waist-belt, which it bent a little, and which thus reduced what would have been a probably fatal wound to a mere contusion.

The troops skirted the hills on their return, for some mysterious reason, and were well peppered from the slopes the whole way, causing five casualties. A Goorka shot through the ilium above the left hip. The ball passed through the pelvis, and was extracted by the officer in medical charge of the corps, shortly afterwards, from the posterior surface of the opposite thigh. The man never recovered from the shock, and died same evening. Cathe-

terism caused the escape of blood in quantity, so that the bladder had probably been perforated.

The other injuries were: a sepoy had the muscles on the outer aspect of his thigh perforated by a ball, a flesh-wound only, though of depth; and a kahar's foot was entered by a bullet between the first and second metatarsal bones, it then inclined a little down, passed along the soft structures of the sole, and came out at the heel. This man is doing well; there is very little swelling, and motion is unaffected. A man of the 24th Native Infantry was also hit by a bullet in the left thigh. It was extracted, I believe, by the medical officer in charge, and the man is doing well. The remaining casualty was that of a Goorka, off whose shoulder a bullet glanced as he was in the act of firing. The slight inclination forwards saved this man's life. The blow produced some ecchymosis only.

After this date all military operations ceased. The next day some headmen, representatives of the various sections of the Kukka Keyls, came in, and the "politicals" took up the game. Nevertheless, the days did not pass without casualties. I omit several narrow escapes from the nightly firing, but shall mention the fate of an unfortunate sowar of the 13th Bengal Lancers. He had a dangerous mission—the conveyance of letters between the force and Jamrood,—not alone, but with two other men. On the 31st, whilst coming through a ravine, a few miles from the Bazar Valley, the Afreedis sent a volley on the party. This poor fellow was shot through the spine, the ball passing through the liver; he also received a scalp wound. Lieut. Hart, R.E., saw the man fall, and rushed to his assistance. The Afreedis were driven off, and I believe this officer has been recommended for the Victoria Cross. I need hardly add that the sowar died in about an hour.

The last casualty of the expedition was a man of the 24th Native Infantry. A party of this regiment was on picket, and one of their number left the sunga to urinate. He was not more than ten or fifteen yards off, but unluckily someone belonging to his picket, too sleepy to have been aware of his going away, saw his figure in the dim light and shot him. The ball severed the posterior tibial artery below its origin, passing through the leg. Profuse bleeding followed, and the man died.

This case, and that of the Goorka before alluded to, point a very serious moral—viz., the absolute necessity of soldiers being instructed in the means of controlling hæmorrhage when the larger arteries are severed—that is, for a few minutes, until medical aid can be obtained. To compress the femoral, carotid, and brachial vessels readily and effectively is about all that is needed; but a thorough understanding of the manipulation required, and readiness in its practice, are, above all, indispensable; and the principal medical officer of the division, I can confidently state, is anxious to have suitable instruction general throughout the corps.

In consequence of the political arrangements the troops returned on the 3rd February unmolested, if that can be held to be a satisfactory wind up to the flourish and preparation of the start.

There was no strain on the field hospital. It received seventeen patients in all only, as the wounded and sick of the Indian corps were treated regimentally. The general health, therefore, of the troops was excellent. As an experiment in a small way, the field hospital was perfectly successful, and the saving in stores and carriage as compared with a maintenance of the regimental hospital system is too obvious to allow criticism.

Jamrood, February 3rd, 1879.

PARLIAMENTARY PROCEEDINGS.

HOUSE OF LORDS.

Tuesday, March 11th.

MEDICAL ACT (1858) AMENDMENT BILL.

On the motion for the second reading of this Bill, after some remarks by the Marquis of Ripon, the Duke of RICHMOND and GORDON said he had very lately an opportunity of expressing his views upon this subject in introducing the Bill. Therefore, but for the observations of his noble friend, he should not have thought it necessary to make any remarks upon the subject. He took this opportunity of expressing his gratitude to his noble friend for the very fair, candid, and open manner in which he had expressed himself upon the subject of his Bill, and of thanking him for his support. There was a point with regard to the limitation of fees to which his noble friend had referred. That would be a subject to be dealt with in committee. Before the Bill proceeded to that stage he would look into the matter and see what arrangements could be made to meet the observations of his noble friend. Another point was the appointment of a committee in the other House of Parliament upon the subject of the constitution of the Medical Council. It was of course impossible for him to say what would happen in the other House, but he believed it would be proposed in the other House in the course of this week to appoint a committee to inquire into the constitution of the Medical Council, and he hoped the reference would be sufficiently large to include all the points adverted to by his noble friend. He quite agreed with his noble friend that if from unforeseen circumstances or from the attempts of those who desired to see reform in the Medical Council, this Bill should make shipwreck, he should be very much disposed, like his noble friend in former years, to give up the attempt as vain, and to admit that his mission was not to legislate for medical reform, but to leave it in the hands of those who thought they had better means of doing it. In conclusion, he had only to propose that the committee on this Bill should be taken on Thursday, the 20th of this month.

The Bill was then read a second time.

HOUSE OF COMMONS.

Friday, March 7th.

IMPURITY OF THE THAMES.

Dr. PLAYFAIR gave notice that on an early date he would call attention to the increasing mortality from zymotic diseases in London arising from the impurity of the Thames, from which water for drinking purposes is drawn, and the urgent necessity of freeing it from pollution.

Wednesday, March 12th.

MEDICAL ACT (1858) AMENDMENT BILL.

Dr. LUSH moved the second reading of his bill. Mr. Serjeant SIMON moved that it be read a second time that day six months. Mr. Burt, Sir J. M'Kenna, Mr. Errington, Mr. Cowper-Temple, Dr. Cameron, Dr. O'Leary, Dr. Playfair, Mr. Mowbray, Mr. Plunket, and Mr. Beresford Hope took part in the debate.

Lord G. HAMILTON, on the part of the Government, asked Dr. Lush to allow his Bill to stand over, pointing out that he was about to move for a Select Committee on the constitution of the Medical Council, and undertaking that the Government Bill should not be proceeded with until it had reported. As to referring the whole subject to a Select Committee, the effect of that would be to prevent legislation for this session, and therefore, probably, for the present Parliament.

The debate was ultimately adjourned on the motion of Dr. Brady.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on March 6th:

Alexander, Samuel, Spring-grove, Isleworth.
Harvey, Alfred, Wheely's-road, Birmingham.
Hodgson, G. Goodfellow, Royal Infirmary, Liverpool.
Prichard, James Edward, Clifton, Bristol.

The following gentlemen on the same day passed the Primary Professional Examination:—

Robert Welsh Branthwaite and Richard Rice, Charing-cross Hospital; Benjamin Studer, Guy's Hospital.

Mr. ROBERT BLAIKIE, M.R.C.S. Eng., has been placed on the Commission of the Peace for Oswestry.

Mr. JAMES SPENCER SPARK, Surgeon, of Millom, has committed suicide by poison while in an unsound state of mind. He was only twenty-nine years of age.

THE deaths in London last week numbered 2023, and exceeded the average by 312, the annual rate being 29·2 per 1000. This high ratio was chiefly attributable to the great fatality of diseases of the respiratory organs, which accounted for 681 deaths. There were 17 fatal cases of small-pox, 22 of measles, 27 of scarlet fever, 7 of diphtheria, 66 of whooping-cough, 12 of different forms of fever, and 12 of diarrhœa.

AT a meeting of the Royal College of Surgeons in Ireland held on the 6th inst., Mr. Frazer was elected an Examiner in the vacancy caused by the decease of Mr. Barker.

DR. JOHN DAVIES, late of Southport, but now of Gresford, has been presented with an illuminated address and a handsome gold hunting watch by a few of his patients, as a small memento of their esteem, and in appreciation of his great skill and ability, and regret at his departure.

BY the death of Mrs. Hannah Brown the Medical School of St. George's Hospital has lost a valuable and most liberal benefactress. In memory of her husband, William Brown, Esq., F.R.C.S., she founded in 1856 an exhibition of the annual value of £40, tenable for four years; and in 1872 another exhibition of £100, tenable for two years. These, which are known as the William Brown Exhibitions, are awarded by competition to students on the termination of their compulsory studies, and are of great value in assisting the holders to continue their medical education either in England or abroad.

UNIVERSITY OF DUBLIN.—The Board of Trinity College have adopted a resolution that a systematic course of instruction in practical vaccination, of one month's duration, be required of all candidates for the M.B. degree.

VACCINATION GRANTS.—The public vaccinators of Halstead, Hedington, and Colne have each received a grant from Government of £13 9s., and Mr. Henry J. Buck, of Saffron Walden, has received a gratuity of £11 6s. (fifth time), for successful vaccination in their respective districts.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—There was a large meeting at the Faculty Hall on Tuesday last to hear a discussion on the "Treatment of Internal Aneurism." The subject was introduced by Dr. M'Call Anderson, who was followed by Dr. John Duncan (Edinburgh), Dr. George Balfour (Edinburgh), Dr. Byrom Bramwell (Newcastle), Dr. Gairdner, Dr. Alex. Robertson, Dr. Foulis, Dr. Perry, and Dr. Macleod. The various forms of treatment by Mr. Tufnell's method, by iodide of potassium, and by electrolysis were discussed at considerable length.

THE SWINEY PRIZE.—The joint Committee of the College of Physicians and the Society of Arts have recommended that the award of the Cup and Coin, in conformity with the provisions of the late Dr. Swiney, be made in favour of Norman Chivers, M.D., author of "A Manual of Medical Jurisprudence for India." The prize, which consists of a silver goblet, value £100, containing gold coin to the same amount, is presented every fifth anniversary of Dr. Swiney's death to the author of the best published work on Medical Jurisprudence.

Medical Appointments.

ATKINSON, G. P., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Pontefract Urban Sanitary District, at £40 per annum, for three years.

BRINGLOE, C., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the Westhoughton District.

CANNY, D. J., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Teignmouth District of the Newton Abbot Union, vice Asbury, resigned.

CARLINE, W. A., M.D., M.R.C.S.E., has been appointed an Assistant Medical Officer to the Lincoln General Dispensary, vice Wilkinson, resigned.

COLLINS, F. H., M.D., C.M., L.R.C.S.I., has been appointed a Surgeon to the Hulme Dispensary, Manchester, vice Walker, deceased.

DONNELLY, M. A., L.R.C.S.I. & L.M., L.A.H.D., has been appointed Resident Apothecary and Accoucheur to the Westmorland Lock Hospital, Dublin, vice Hughes, resigned.

DOWDING, A. W. W., L.R.C.P.L., M.R.C.S.E., L.S.A.L., L.M., has been appointed Certifying Factory Surgeon for the Ampthill District.

DURANT, E., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for No. 2 District of the Coventry Union, vice Millerchip, resigned.

EWART, J., M.R.C.S.E., has been reappointed Medical Officer of Health for the Accrington Urban Sanitary District, at £40 per annum, for three years.

FITZGIBBON, H., M.D., C.M., has been appointed a Surgeon to the Westmorland Lock Hospital, Dublin, vice McDowell, deceased.

GADSBY, J. T., M.B. & B.S., M.R.C.S.E., has been appointed House-Surgeon to the Richmond Hospital, Surrey, vice Ward, resigned.

GILL, W., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for the Sheffield North-West District of the Sheffield Union, vice Reckless, resigned.

HACON, W. E., L.R.C.P.L., M.R.C.S.E., L.S.A.L., has been appointed Resident Obstetric Assistant to the Queen's Hospital, Birmingham.

LOVELL, R. H., M.R.C.S., late Resident Obstetric Officer, has been appointed Resident Medical Officer at St. Mary's Hospital, vice Hetherington, retired.

MCCARTHY, J. McCallum, M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of St. George, near Wellington, Salop, vice Greene, resigned.

PYE, W., F.R.C.S., Assistant-Surgeon to St. Mary's Hospital, has been appointed Assistant-Surgeon to the Victoria Hospital for Children, Chelsea.

ROBBINS, J., M.B., C.M., has been appointed Assistant Medical Officer to the Workhouse, Infirmary, and Schools of the Leeds Union, vice Wales, resigned.

RUSHER, J. G., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Pershore.

SHERA, H. A., L.R.C.P.Ed., M.R.C.S.E., has been appointed an additional Medical Officer to the Sheffield Free Hospital for Sick Children.

SHERIDAN, M. J., M.D., L.R.C.S.I., L.A.H.D., has been appointed Medical Officer to the Wexford Union Workhouse and Fever Hospital, vice Crean, resigned.

STUART, J. R., M.B., C.M., has been appointed House-Surgeon to the Hulme Dispensary, Manchester, vice Collins, resigned, and appointed a Surgeon.

TAYLOR, Mr. J. V., has been appointed Public Analyst for the Borough of Colchester, at 21s. per analysis.

VACHER, F., F.R.C.S.Ed., L.R.C.P.Ed., has been appointed Public Analyst for the Borough of Birkenhead.

WATSON, Dr., M.B., C.M., has been appointed Honorary Surgeon to the Hulme Dispensary, Manchester.

WHITEHOUSE, W., L.D.S., has been appointed Dental Surgeon to the Royal Infirmary for Women and Children, Waterloo-road.

WILKINSON, T. M., L.R.C.P.Ed., F.R.C.S.Ed., has been appointed a Surgeon to the Lincoln General Dispensary.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On the 11th inst., at Storeyville, Cramlington, Northumberland, the wife of Robert Anderson, M.D. &c., of a daughter.

BOND.—On the 4th inst., at Delahay-street, Westminster, the wife of Thomas Bond, F.R.C.S.E., of a son.

FINCH.—On the 2nd inst., at Colchester, the wife of Henry Finch, M.D., of a son.

PARKER.—On the 4th inst., at Haverigg House, Gosforth, the wife of Charles Arundel Parker, M.D., of a daughter.

SHAW.—On the 2nd inst., at Banstead, the wife of Thomas C. Shaw, M.D., of a daughter.

MARRIAGES.

BRUCE—LEA.—On the 25th ult., at St. Mary's Church, Moseley, by the Rev. W. B. Benison, M.A., assisted by the Rev. W. H. Colmore, M.A., John Mitchell Bruce, M.D., F.R.C.P.L., to Florence Mary, only daughter of James Green Lea, of Moseley, Worcestershire. No cards.

DAVEY—TOWNSEND.—On the 5th ult., in the Dutch Reformed Church (English Service), Beaufort West, Cape of Good Hope, by the Rev. L. Hugo, Charles James Davey, M.B., C.M., late of Colchester, England, to Catharine Elizabeth, eldest daughter of Frederick Townsend, Esq. No cards.

GARDEN—BRYCE.—On the 6th inst., at Westbank, Aberdeen, by the Rev. George N. Knight (Free South Church), assisted by the Rev. James Selkirk (Free East Church), Robert John Garden, M.D., to Jane, third daughter of James Bryce, Advocate.

DEATHS.

BEEVOR.—On the 9th inst., at Bawtry, John Beevor, M.D., of Mansfield-Woodhouse, Notts.

BILLING.—On the 26th ult., at Grove-terrace, Longsight, Manchester, John Henry Billing, M.R.C.S.E.

BRIMS.—On the 9th inst., at his residence, Mount Villa, Burnley, of acute pneumonia, James Brims, M.D., aged 43. No cards.

EVANS.—On the 26th January, at Sunderland, John Evans, M.B., aged 59.

GLANVILLE.—On the 22nd January, at Isandula, Zululand, Usher Glanville Doyle Glanville, L.R.C.P.Ed., aged 34.

HUGHES.—On the 25th ult., at Abingdon Villas, Kensington, Thomas Hughes, M.D., formerly of St. Peter's College, Cambridge, aged 75.

JEFFREY.—On the 11th inst., at Jedburgh, John Jeffrey, M.D., of Ayton, aged 68.

JONES.—On the 14th ult., at 20, Choyd-street, Ruthin, North Wales, Elizabeth, wife of Thomas Jones, Surgeon, aged 75. And on the 6th inst. (surviving his wife only three weeks), Thomas Jones, Surgeon, in his 80th year. Deceased was nearly fifty years Medical Officer of the Ruthin Parishes and Union, and thirty-five years Medical Officer of the County Gaol at Ruthin.

JORDISON.—On the 10th inst., at Hornchurch, Essex, Robert Lloyd Jordison, M.R.C.S.K., aged 37.

LATHAM.—On the 9th inst., at Wigan, John Latham, L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., aged 77.

LAWLESS.—On the 11th inst., at St. Patrick's Hospital for the Insane, Dublin, Edmund Lawless, M.R.C.S.E., the Resident Medical Superintendent, aged 58.

SPARK.—On the 1st inst., at Millom, Cumberland, James Spencer Spark, L.F.P.S.G., aged 29.

WADE.—On the 6th inst., at 24, Temple-row, Birmingham, Mary Anne, widow of the Rev. Michael Wade, M.A., aged 82.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, March 13th, 1879.

ate.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radiation in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 7	30·53	WNW	38	40	..	51	35	..	Foggy
,, 8	30·62	S.S.E.	37	37	..	56	35	..	Foggy
,, 9	30·54	WNW	45	50	..	60	36	..	Fine
,, 10	30·45	N.W.	40	40	..	55	36	..	Foggy
,, 11	30·31	N.	42	45	..	49	38	0·12	Cloudy
,, 12	30·12	W.	41	45	..	55	38	..	Overcast
,, 13	30·41	N.E.	30	34	..	46	30	..	Fine

Notes, Short Comments, and Answers to Correspondents.

CAVENDISH COLLEGE, CAMBRIDGE.

WE have received a report of this College, which has been recently founded under the auspices of the Duke of Devonshire, the Chancellor of the University, in order to afford special facilities for obtaining a Cambridge degree in Arts or Medicine, or both, at a moderate cost, and at the earliest practicable age. For an annual charge of £84, students are boarded and taught in the College, and many of the University fees are paid for them, and the students are matriculated and enjoy all the privileges of the University. Residence may commence at the age of sixteen, and an Arts degree may be obtained at nineteen. Thus for a total cost of £250, spread over three years, a youth can become a graduate of Cambridge, and enter any profession. The College, like the University, is open to all, whether Churchmen or Nonconformists. There are already between thirty and forty undergraduates in residence, with a warden, chaplain, and tutors. Information may be obtained by applying to John Cox, Esq., Warden of the College.

Dr. Edwin Chadwick.—Too late for this week. Shall appear next.

HERPETIC ERUPTION IN PNEUMONIA.

To the Editor of THE LANCET.

SIR,—Professor Hardy (*Gaz. des Hôp.*, June 29th, 1878), speaking of a case of pneumonia of very grave character in a young man, aged nineteen, mentions among the bad signs the appearance of herpes on the face, which he said in pneumonia was always a very bad augury.

Dr. Beddoes, of the Bristol Royal Infirmary, in THE LANCET of 1873, reports a grave case of pneumonia, in which, on the appearance of herpes, the pneumonic symptoms disappeared entirely in two days. In this case the vesicles were found inside the mouth, on tongue, upper lip, eyelid, ear, over scapula and groin, &c.

Again, Professor Sée, in a clinical lecture reported in THE LANCET for 1873, says, referring to herpes labialis: "This was not a critical phenomenon, since it appeared as early as the third day, but it was really a favourable sign. Out of 145 cases of pneumonia in which herpes had appeared, there were 123 cures, which took place definitively on the fifth or seventh day. Generally pneumonic sufferers with herpes died only in the proportion of 9 per cent., and those without in the proportion of 29 per cent. In the aged herpes seldom appeared. 75 per cent. with herpes recovered, and only 25 per cent. without herpes. In youth, a favourable time of age, herpes might be considered as almost a certain sign of speedy recovery."

I write this communication to elicit further information on this point, for the prognostic value of the phenomenon is a desideratum.

In Professor Hardy's case, referred to above, he used large doses of tartar emetic to produce vomiting and purging; but when the patient was purged four times, and vomiting had occurred three times, he stopped the medicine for fear of causing depression.

It has been my experience to have never seen anything but evil from the effects of purgatives in pneumonia, and I am always careful to check the least tendency to looseness of the bowels in that disease.

I remain, Sir, yours truly,

Antigonish, Nova Scotia, Feb. 1879. W. H. MACDONALD.

LADIES' SANITARY ASSOCIATIONS.

A CORRESPONDENT asks for information concerning Ladies' Sanitary Associations. He wants to know where such Associations exist, and the regulations which govern them.

Mr. John Whitlock.—The conduct, if fairly represented, is very bad, and cannot be too severely condemned. The circumstances should be stated to the professors whose testimonials are used.

DR. BELL'S UTERINE DOUCHE.

To the Editor of THE LANCET.

SIR,—On page 352 of last week's LANCET you notice my uterine douche, but say that it is designed by Dr. Bell, of *Edinburgh*, and you also state that it will answer for injections per anum. It is purely and simply a uterine douche, and I am sure whoever uses it will find it the simplest form of apparatus that has been brought under the notice of the profession. I am, Sir, yours sincerely,

Glasgow, March 10th, 1879. ROBERT BELL.

THE BARNES "MYSTERY."

WHENEVER "remains" are discovered inexplicably buried or floating, apparently without taking counsel of competent men, at least to judge so from reports, the daily papers assist in the public mystification by an invariable and distinct avowal that there is "considerable difficulty" in ascertaining whether or not such "remains" have been subjected to legal anatomical examination. It seems but a short while ago, when a doubt might have been raised, whether or not the "remains" were human or not. We trust we have passed this stage. All this *lay* sensational doubt is hardly flattering to our professional brethren; and might we suggest that in future, when "remains" come to light in places where least expected, a professional note as to their condition be appended, giving the name of the surgeon who examined them. It is evident that a large amount of anxiety would thus be relieved, and a deal of sensational twaddle dismissed.

Mr. Samuel Thompson will find the information he seeks in Huxley's Physiology, or Dr. Michael Foster's Primer.

J. M. H. M.—We do not know of such an institution.

THE METRICAL SYSTEM.

To the Editor of THE LANCET.

SIR,—Having for many years taken a practical interest in the discussion respecting the adoption of an international standard of weights and measures, I have carefully studied, and I hope with proper respect, your advocacy of the French metrical system. You will, however, pardon my saying that I fail to discover any new argument in favour of the extraordinary proposal that we should give up absolutely and entirely our natural and hereditary plan of weighing and measuring.

In an annotation on this subject, which appeared in your columns last week, you cite a statement that we are bound to introduce the metrical system with as little delay as possible, for moral, intellectual, social, practical, philosophical, and professional reasons. Now, Sir, it has always appeared to me that these are the precise grounds on which this system should be rejected. I can conceive and am ready to allow that if from any cause whatever the other civilised nations of the world were to be prevailed upon to adopt the metrical system, it would be expedient for the English nation to accept it too; but my firm conviction is, that if intelligent criticism be allowed its say, the question of expediency will never arise.

I need not describe the social and political circumstances in which the metrical system had its birth; suffice it to observe that they coincided, both in character and in time, with the attempts of French atheists and anarchists to eradicate all social distinctions, to abolish every divine and human law, and to set up a bastard form of philosophy-worship in the place of the Christian religion. Viewed from this standpoint, the metrical system can scarcely commend itself on social or moral grounds. Nor have the intellectual and philosophical reasons, in my opinion, a better stamp. Permit me to briefly point out the way in which the French philosophers set about the work of devising a metrological scheme which, in the vanity of their hearts, they fancied would sooner or later rule the world. Assuming that the globe is a body of invariable dimensions, they attempted the almost impracticable task of making a trigonometrical survey of a quadrant of the earth's surface, and completed their labours by constructing a standard metre which should be exactly one ten-millionth part of the distance from the equator to the pole. Unfortunately, it has since been shown that these good men were wrong in every particular. The earth is not invariable in dimensions, the equatorial circumference is not a perfect circle, so that there are different equatorial axes, and, therefore, different lengths in different longitudes; and, lastly, it has been proved that the survey made by the French physicists was incorrect, and accordingly the supposed perfect metre was erroneous to the considerable extent of one part in 5527. When this latter fact could no longer be denied, it became necessary either to alter the assumed length or to abandon its supposed relation to the earth's dimensions. For obvious reasons the French Government decided in favour of the latter course. Yet, forsooth, we are to adopt the metrical system for intellectual and philosophical reasons! Still I will confess that these defects might not be sufficient to enforce its rejection if it can be shown to have any practical advantages. But, as far as I can judge, it has none whatever. Comparisons of British measurements with those of the most ancient civilised nations, and especially with those obtained from the examination of the Egyptian pyramids, have incontestably established the English inch as a natural unit of measurement. The calculations of the late Mr. John Taylor and Professor Piazzi Smith have shown that the British hereditary inch differs from the ancient pyramid inch by not more than one part in a thousand, the ancient pyramid great or fifty-inch standard being equal to 50·0496 English inches, the small or twenty-five inch standard being of course equal to 25·02475 English inches. To this latter standard, I may observe in passing, a high and peculiar interest attaches, inasmuch as it is exactly the length of the "sacred cubit" of the Jews. The Roman inch, too, differs little from the English inch, and, indeed, almost all ancient and modern nations have a corresponding natural unit of measurement.

Had I not already encroached too much upon your valuable space, I should have liked to have pointed out many of the practical drawbacks of the metrical system, and to have mentioned some of the æsthetic and historical claims of the natural system of measurements. I am by no means blind to defects of our national standard of measurement. I merely maintain that we have in the inch the best possible unit of measurement, and I for one am not willing to abandon the natural system of measurements obtained from the use of those natural means with which the Creator has supplied every well-grown man, in the shape of the thumb (*pollex*), the hand, the foot, and the forearm (*cubitus*), for a complicated and artificial system, based on the blunders of French geodeters. I am, Sir, yours truly,

March, 1879. J. T.

THE MEDICAL WOMEN QUESTION.

MISS JEX-BLAKE and two other ladies, licentiates of the College of Physicians in Ireland, having applied to be admitted members of the Medical Society of the College of Physicians, the Society recently requested the College authorities to give their interpretation of Rule 1—viz., "All Fellows, Honorary Fellows, and Licentiates of the College, unless such as may be under censure, are *ipso facto* eligible as members of the Society, and 'may' be admitted on payment of the entrance fee and annual subscription." The Fellows, at a meeting held on the 8th ult., decided by the casting vote of the Chairman that the word "may" has the force of the word "shall." This opinion was brought under the notice of the members of the Medical Society last week, and a resolution adopted by a majority of votes that Miss Jex-Blake and the other applicants shall be admitted as members.

A Country Practitioner.—A consultation with a brother practitioner upon the case might be advisable.

GAOL SURGEONS IN IRELAND.

To the Editor of THE LANCET.

SIR,—The excellent article on the position of gaol surgeons in Ireland, in your issue of the 15th ultimo, has helped to draw the attention of our brethren in England to the hardships we are undergoing. It may interest them to know more fully the particulars of our case, and, with your permission, I shall state it as briefly as possible.

There are two classes of surgeons in our county gaols—those who hold only the gaols, and those who are attached to county infirmaries as well as the gaols. Your article refers to the latter class only, and succinctly points out one (and the chief) of their grievances—viz., having for fifteen months been obliged to carry out arduous duties, without payment, at the direction of a small Board entirely unacquainted with the sanitary or hygienic details only to be known by the actual experience of a medical practitioner. An instance of the treatment which the infirmary surgeons have experienced at the hands of the Prisons Board may be instructive.

Dr. Boxwell, who had been for forty years surgeon to the County Wexford Infirmary and Gaol, found himself in October last unable to discharge the onerous extra duties imposed upon him by the new Prisons Bill; consequently he resigned, and applied to the Board for payment. In reply, he was informed that the law adviser of the Crown had given as his opinion "that Dr. Boxwell is not entitled to claim any salary or remuneration after the first of April," that being the date when the prisons were taken out of the hands of the Grand Juries and placed under the General Prisons Board, and the expenses charged on the Consolidated Fund. The law adviser further stated "that the rate of remuneration must be fixed by the Lord Lieutenant, with the consent of the Treasury (clause 29); and that if Dr. Boxwell thought fit to act as medical officer without being appointed, he could not legally claim any salary."

Now, Sir, this is no doubt a very extraordinary circumstance, and is well worthy of attention. On three separate occasions the Prisons Board, on receiving deputations from the gaol surgeons and answering communications, stated most distinctly that it was only a question of time and amount as to when and what salaries would be paid. They notified in a circular in November, 1877, that the extra duties should then come into requisition *at once*. Since the 1st of April, 1878, numerous circulars have been addressed to every gaol surgeon in Ireland; certificates &c. have been applied for; their signatures demanded when medical appliances and drugs were required or supplied; quarterly inspections and reports have been rigidly looked after; in many instances most vexatious details demanded of them; and yet we are told our services have not been required, and we are not to be paid unless the General Prisons Board are obliging enough to recommend his Grace the Lord Lieutenant to give some recompense as a gratuity or favour!

By clause 27, medical officers are recognised as existing officers, and as such are entitled to hold their offices without being re-elected. No doubt the General Prisons Board would like us to resign, and make us on re-appointment undertake the duties of apothecary in addition to those of local inspector and general scapegoat; this they effected last year in Armagh, when the present surgeon was elected. But it is more likely that we should resign, and not consent to be re-elected on the terms offered. In that case they should find other surgeons as competent as those now in charge of the county infirmaries, and pay a larger salary to secure competent persons, who had not the advantage of holding *both* positions.

The question of salaries one would have thought would have given very little trouble. In Schedule S of the old Grand Jury Act, the salary for gaol surgeons is specified for every county in Ireland. This might have been taken as a basis, and an increase made in consideration of the enormously augmented duties imposed under the new Act. The only objection to those salaries being given to surgeons holding infirmaries was the 80th section, c. 116, 6th and 7th William IV. This clause has been deliberately repealed in the new Act (para. 27), and it seems probable that the Government could be legally compelled to grant those Schedule salaries to the infirmary surgeons now, as well as to those who are at present paid by this very same Schedule—namely, those gaol surgeons who do not hold infirmaries.

Thus far the question of salaries. Now for the question of management.

It will be borne in mind that the Prisons Board has existed for fifteen months; that they have not paid one sixpence to their gaol (infirmary) surgeons; that as yet they have formulated no scale of dietary for their prisoners; and that, while they have recognised our status for their convenience, they have yet denied us its advantage. In no instance (as far as I am aware) have they consulted any of their professional officers on matters of general hygiene, although they have unusually capable and experienced advice in their power—men with forty and forty-five years' daily experience of prisons and prisoners. Who could be better qualified to give an impartial and correct opinion on hygienic details? But no; their autocratic rules must be rigidly carried out, and they parade their lengthened experience in the treatment of prisoners, when their medical officer protests against prisoners being obliged to work, sleep, and eat in a cell for twenty-three hours consecutively without being allowed to breathe for five minutes other air than that exhaled from their own lungs. They may say there is ventilation in the cell. But I ask was there ever a prisoner who kept his ventilator open on a cold day, with his cell in a great majority of cases at a considerably lower temperature than it ought to be?

By a circular (No. 35) it is ordained that every lad over the age of thirteen shall be subjected to sleeping on a plank-bed. What are the conditions under which lads of this age are imprisoned? In nine cases out of ten for larceny, in many for larceny to obtain the bare necessaries of life? What is their condition? One of poverty and semi-starvation. In the cause of humanity, is it right that such subjects as these should indiscriminately be given a hard board to sleep on? What is the result? No sleep, loss of appetite, kept in a flagged cell for twenty-three consecutive hours on a stinted diet consisting of bread, stirabout, and milk. Is it to be wondered at that these boys should become stunted, and have sown for them the seeds of spinal disease? Numberless other instances of essentially faulty principles applied to the daily treatment of prisoners might be adduced. I have given a few. No doubt in time many of these details will be corrected, but they can only be corrected by listening to the suggestions of their medical officers or other persons conversant with the rules which govern health; yet these are the very men whom the General Prisons Board insult and snub. The Government adopted the resolutions proposed by some members in the House of Commons during the passage of the Bill, and embodied them in it at clauses 52 and 53. The humane object of those resolutions was to secure proper medical treatment for prisoners, and to place the medical officer in a position reasonably free and independent of any Central Board. It was not the intention of the Government, or of individual members, to impose the following extra duties on medical officers without extra, or indeed any, payment—viz., (1) daily visits; (2) keeping an exhaustive journal, containing the names of the sick, the disease, a description of the diet, medicines, and any other particulars of treatment; (3) inspecting and reporting fully every quarter in the gaol, recording observations on cleanliness, drainage, warmth, ventilation, bedding, clothing, water-supply, &c. &c.; (4) reporting to the chaplain such cases as he thinks may require special attention and spiritual instruction; (5) making post-mortems; (6) examining every prisoner on admission minutely with reference to his fitness for hard labour or otherwise; (7) visiting every prisoner once at least in the course of the week. Those are the *extra duties*, none of which existed under the old system. These, without a single exception, all surgeons have faithfully and honourably executed; with what result it is not hard to find out—namely, general dissatisfaction with the treatment received at the hands of the Board, discourtesy shown for an attentive anxiety to carry out the provisions of the Bill, and, finally, no apparent disposition to give us fair remuneration for fifteen months' honest work.

I remain, Sir, your obedient servant,

HERCULES MACDONNELL,
Surgeon to the Dundalk Gaol and County Louth Infirmary.

Dundalk, Ireland, March 7th, 1879.

MEDICAL OFFICERS OF HEALTH AND THE PROFESSION.

L.R.C.S.E.—The medical officer of health had nothing to do with the case as far as we can see from the account sent us, and acted with scant courtesy to the medical man in attendance. To do medical officers of health justice, they do not often err.

A. G. R.—Any experienced physician can treat the case. We never recommend a particular medical practitioner.

SURGEON-MAJOR SHEPHERD.

THE following has been sent to us for publication:—

[COPY.]

To Major Duncan, Royal Artillery, Director of the Ambulance Department of the Order of St. John of Jerusalem, in England.

SIR,—I have been requested by the several inspectors and sergeants of the metropolitan police, who received instruction under the auspices of the late Surgeon-Major Shepherd, in rendering "first aid to the injured," to express the heartfelt sorrow with which they have received the tidings of his death. His uniform kindness and consideration in imparting knowledge as to the treatment of accidents in streets will be long held by them in grateful remembrance.

Believe me to be yours very faithfully,

WILLIAM C. HARRIS,
Assistant-Commissioner of the Police of the Metropolis.

The original has been forwarded to Dr. Shepherd's mother. A similar letter has been received from his ambulance pupils at Lavender-hill.

Mr. Thomas A. Ballard.—We should say that the injury did not arise from the alleged cause. The bone may have been previously broken, and that would perhaps explain why the accustomed note did not come.

AN INTIMATION.

To the Editor of THE LANCET.

SIR,—May I call your attention to the fact that there is a notice outside No. 8, Saville-row, to the effect that "all letters for the late Mr. Startin and Mr. Naylor may be left here." I must protest against this, as my late uncle, Mr. Jas. Startin, has been dead nearly five years.

If you think this worthy of publication, notice it.

Yours faithfully,

Sackville street, W., March 6th, 1879. JAMES STARTIN.

THE BRADFORD INFIRMARY AND MEDICAL VISITORS.

WE gather from certain letters and discussions in the Bradford papers that there is not a perfectly good understanding between the medical staff of the Bradford Infirmary and the members of the profession outside. The latter complain that they are not always welcome when they visit the infirmary to see cases or operations, and, occasionally, even that operations are postponed on account of their presence. We would fain hope that there is some error here. If not, the evil cannot too soon be corrected. The members of the hospital staff hold their office for the good of the patients and of the public, and they cannot do better for either than by welcoming the visits and the friendly criticism of their medical brethren.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Dr. Henry Vincent, (East Dereham.)—We have to thank our correspondent for his suggestions; but we fear that they are impracticable in the working of a journal. The reports are received at irregular times, each writer has his own model, and not all contain similar data. The information as to *large* towns comes from the Registrar-General's Returns, as also the quarterly account of public health. The information our correspondent seeks to collect is of a sort which should fall within the province of the Society of Medical Officers of Health, who might well undertake the task of putting it together, and making it public. Why not address a communication to that Society on the subject?

THE CASE OF MR. MILLERCHIP.

To the Editor of THE LANCET.

SIR,—I feel sure that in your indignant protest against the severity of the sentence passed by Lord Coleridge on Mr. Millerchip, you only give language to the feelings of profound dissatisfaction and injury that that sentence has awakened in our profession generally. This startling award will bring into unpleasant prominence one of the conditions that attach to the acceptance of Poor-law appointments. It shows that those who hold these appointments are serving not only a hard but a harsh master. They have long known how inadequately their professional services are remunerated; but now they are shown that an abyss of professional ruin and the felon's cell are possibilities that some neglect or omission may any day entail upon them. There is one factor, however, in this case that appears to have been left out of consideration, and which to a non-legal mind would have shielded Mr. Millerchip from such a charge of manslaughter. Had the parents no alternative? Mr. Millerchip could not have been the only medical man available. Instead of repeatedly sending messages by children to him, when they found he did not come, why did not the parents send for another doctor? Mr. Millerchip would, doubtless, have cheerfully paid his fees. The parents might have complained to the guardians of the neglect, which complaint would have, doubtless, been followed by a caution, a reprimand, or a dismissal as the case required. It seems difficult to understand that, if assistance might have been obtained from other sources during the four days' illness of the child, Mr. Millerchip should render himself liable to such a charge as manslaughter for not going when called. Again, the child died from natural causes; no one gave it any injury; its illness was not caused by neglect; and even if the skill of the medical man might have averted the fatal termination, it seems hard to imply that he slaughtered the child because he did not go and visit it, especially as someone else might have been asked to attend it. It was a serious piece of neglect, which might have been punished by loss of the appointment; but at most it was negative manslaughter, and the terrible punishment inflicted will have the effect of exciting the strongest feelings of commiseration for the surgeon in the place of the professional condemnation his neglect would otherwise have called forth.

Supposing a similar neglect of duty had occurred in another profession, what redress would there be? If a clergyman is summoned to attend a fever-stricken patient who has been a great sinner, and does not choose to go; if the man dies, and, according to the clergyman's creed, is lost, what punishment awaits the neglect of duty? Is he liable to a charge of soul-slaughter? If not, why? Are souls less valuable than bodies? Compare the stipend of the rector or vicar with that of the parish doctor: the life of ease and social pre-eminence with the life of laborious and unhonoured duty; the difficulty of punishing misdoings, on the one hand, with the terrible facility with which intolerable humiliation and ruin may be incurred on the other. Is it not time that our profession should assert its true position, and cease to hamper itself with such heavy obligations for such paltry considerations? Let medical men, before they accept parish appointments, consider the liabilities they incur by so doing, the lowering effect of the title parish doctor, and whether the duties can be honourably discharged, the required medicines provided, and the requisite time devoted to the poor patients on the miserable terms usually offered by the Poor-law authorities. Let them remember the fate of Mr. Millerchip; and perhaps the best way of not forgetting him would be (considering how he has opened the eyes of the profession to the terrible severity that will light on any slips of the medical man) to make an effort to obtain a remission of his sentence, or, failing that, to assist him substantially at the termination of his degrading four months, should he survive it!

I am, Sir, yours obediently,

March, 1879. G. A. G.

COTTAGE HOSPITAL FOR FYVIE.

COLONEL AND MRS. GORDON have generously consented to bear all the expenses of building and endowing a cottage hospital for the parish of Fyvie, near Aberdeen. The best part of an acre of ground has been allotted for the hospital and gardens, and the site at Peterwell will ensure the double advantage of southern exposure and great facilities for a perfect system of drainage. There will also be a plentiful supply of good water, and general satisfaction is expressed with the various plans relating to the proposed structure.

POLICE CAUTION.

THE police authorities desire attention to be directed to a man who is in the habit of calling at the houses of medical gentlemen &c., inquiring for some person who does not reside at the address, and, during the temporary absence of the servant, steals articles from the room where he is left, and decamps. Description: Age about thirty; height, 5 ft. 11 in.; stout build; complexion, hair and whiskers fair; chin clean shaved; dress black coat; light colour trousers; high black hat; carried a walking-stick; respectable appearance. Information should be given to the Director, Criminal Investigation Department, Great Scotland-yard, or at any metropolitan police station.

A Doctor's Wife.—We would advise our correspondent to apply to Henry Bonham Carter, Esq., Secretary of the Nightingale Fund, for the Regulations of the Fund for Training Hospital Nurses; also to Miss Lee, of the Metropolitan Association for Providing Trained Nurses for the Sick Poor. From either or both of these sources she will be likely to obtain the kind of information she wants.

PUERPERAL ECLAMPSIA.

To the Editor of THE LANCET.

SIR,—Several cases of the above have recently appeared in THE LANCET, coming on previous to and during labour. Perhaps you may find space in your columns for the following case, which I think somewhat unusual on account of the appearance and persistence of the symptoms after the birth of the child.

I was sent for at 10 A.M. on December 21st, 1878, to come at once to H. C——, aged twenty, married, primipara, who was said to be dying in a fit. I went immediately, and on arrival learned that she had been unexpectedly confined of a living child at 8 A.M. There was no one with her at the time of delivery; but her mother, coming in shortly after, found that whilst attending to her household duties as usual she was suddenly seized with labour pains, and before she could reach the bed the child was born. The placenta quickly followed, with scarcely any discharge. She was assisted to bed, and said, "How well I feel," and asked to have some toast and tea. Shortly after she was observed to yawn very much, and this was immediately followed by a violent convulsion. I found her in an unconscious state, breathing heavily, and with a quantity of frothy and bloody foam issuing from her mouth. She was very pale, but there was no puffiness of either face or ankles; she had complained of acute cephalalgia for the last few days. After watching her a short time she opened her eyes, stared vacantly at me for a few seconds, when the head was gradually drawn back, the eyes rolled upwards, followed by a prolonged convulsion, attended by the usual phenomena. Having clearly seen the nature of the case, I directed her to be kept perfectly quiet in a darkened room, with the continuous application of cold to the head, and prescribed a mixture containing twenty-five grains of chloral hydrate and twenty grains of bromide of potassium in an ounce of water, to be taken every three hours if necessary; but on proceeding to give her a dose I found the jaws and lips closed with tetanic rigidity, and could not succeed. I then gave her a suppository per rectum, containing half a grain of the hydrochlorate of morphia, which seemed to quiet her for about three-quarters of an hour, when she had two more convulsions, and I gave her another suppository. She then became much quieter, and I left her.

Dec. 22nd.—The convulsions have continued at frequent intervals throughout the night. She has been quite comatose, and has not taken nourishment of any kind. I was able to give her some of the mixture by a teaspoon, forcing it between her teeth, and telling her in a loud voice to swallow, and towards evening I gave her an ounce of beef-tea and brandy. To take the mixture as directed.

23rd.—Had no convulsions during the night, but has had three this morning. Is semi-conscious at times, when she will take milk and beef-tea eagerly from a teaspoon. To continue the mixture.

24th.—Had several convulsions during the night and early this morning, although taking the mixture. I watched her the greater part of the day, and when I thought a convulsion threatening, placed her under the influence of chloroform, and she passed the day without any return of the paroxysms. As she had not passed urine since delivery, I introduced a catheter, and drew off a quart of pale urine, containing one-third albumen, and cleared out the bowels by a simple enema.

25th.—Passed a quiet night; no return of the convulsions; is quite conscious for the first time since the 21st, and has asked to see the child; cannot pass urine. I introduced a catheter, and drew off a pint and a half of pale urine. Takes milk and beef-tea freely, and complains of feeling very hungry. To continue the mixture three times daily, and to have a dose of castor oil. From this date she continued to improve rapidly, and in a week was convalescent.—Yours &c.,

Market Lavington, Feb. 24th, 1879. J. S. LUSH, M.R.C.S.

QUACKERY IN NEW SOUTH WALES.

L.R.C.S. and L.R.C.P. complains of the unrestrained doings of quacks of all sorts in the rising colony of New South Wales. He warns qualified medical men who may think of seeking their fortunes there. The medical laws are lax, and loosely applied by the Medical Board. The Board would do well to remember that efficient and educated men will not willingly come to a place where the law makes no or little difference between qualified medical men and impostors, and that imposture in medical matters means death.

GOVERNMENT GRANTS FOR GOOD VACCINATION.

WE publish the following advertisement as a kind of thing to be avoided:

"Dr. Downing, Physician, Surgeon, and Accoucheur (late of Wellington House), has removed to 428, Newcross-road. Surgery and Dispensary, 176, Church-street, Deptford. Consultation hours, Newcross: Morning, before 10.30; evening after 7.30. Church-street: Morning, before 10.30; evening, after 7.30. Private vaccination, Mondays at 2.30. Prize Government grant given for successful vaccination, Oct. 1878."

A Regular Subscriber.—The name in question is not in the Medical Register for 1879. Therefore presumably he is breaking the law by pretending to be what he is not. Our correspondent should ascertain by direct inquiry of the Secretaries of the Royal Colleges of the three divisions of the kingdom.

INTERMENINGEAL HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—Having read with much interest the case of "Intermeningeal Spinal Hæmorrhage simulating Strychnine-poisoning," related in your issue of last week by Dr. Dixon, of Preston, I should be glad if you would allow me to make one or two remarks upon it.

That the symptoms observed presented, as Dr. Dixon remarks, a very suspicious resemblance to those met with in cases of strychnia-poisoning, I think all will admit; in fact, from beginning to end the phenomena observed would appear only to be explained on such an hypothesis; and Dr. Dixon justly remarks that in the standard treatises on Medical Jurisprudence no mention is made of spinal hæmorrhage as producing symptoms so likely to be mistaken for poisoning by this alkaloid. But what is more to the purpose is that the occurrence of meningeal hæmorrhage in the spinal cord *is* mentioned as an appearance occasionally met with in cases of death from strychnia. Thus on p. 709 of the third edition of Taylor on Poisons is related the case of a man who "died in less than three hours from a dose of a grain and a half. On inspection, there were extensive patches of extravasated blood beneath the arachnoid membrane of the lower half of the spinal cord." It is true that in Dr. Dixon's case the blood appears to have been in larger quantity; but I imagine that, given the fact that hæmorrhage is liable to occur, we may be prepared for variations in the amount. Under these circumstances, one cannot help feeling that the case, so unique in its kind, would have been more satisfactory if the original intention of subjecting the contents of the stomach to a chemical analysis had been adhered to.

I am, Sir, yours truly,

Aberdeen, March 9th, 1879. E. F.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Curnow, London; Mr. Maunder, London; Dr. De Havilland Hall, London; Dr. Haughton, Dublin; Dr. Wadham; Dr. Tatham; Mr. W. J. Smith; Mr. H. P. Dunn; Mr. Parker, Liverpool; Dr. Fergus, Marlborough; Mr. W. Barnes, London; Mr. Colson, Ahmednagar; Mr. Saunders, Mutley; Dr. Elliot, Carlisle; Mr. Wills, Crewkerne; Dr. Perigal, New Barnet; Dr. O'Connor, Welshpool; Mr. S. Deakin, Bongal; Messrs. Cassell and Co., London; Mr. Olley, Biggleswade; Mr. Vincent, London; Dr. MacDonnell, Dundalk; Mr. Murphy, London; Mr. Colt, Maidencombe; Mr. Holbecke, Belfast; Mr. Fosbroke, Birmingham; Mr. Vacher, Birkenhead; Mr. Startin, London; Mr. Jones, Brockton; Mr. Bloxam; Mr. Sawers, jun., Edinburgh; Dr. Taylor, Nottingham; Dr. Byrne, London; Dr. Foulis, Glasgow; Messrs. Thompson and Co., London; Messrs. Behr, Tweedie, and Co., London; Mr. Fry, Wateringbury; Mr. Russell, Limerick; Mr. B. Jackson, London; Mr. Smyly, Dublin; Mr. Treves, London; Messrs. Newbery and Sons, London; Messrs. Baillière and Co., London; Dr. Trentler, Dresden; Mr. Iliffe, Kendal; Dr. L. M. Hall, London; Mr. Davies, Gresford; Dr. Cottle, London; Mr. Pye, London; Dr. Corfield, London; Mr. E. Chadwick, East Sheen; Mr. Dowding, Ampthill; Mr. Bousfield; Dr. Lovell; Mr. S. Thompson; Dr. Purdon, Belfast; Mr. M'Cartie, Skibbereen; Mr. Morris, Dorchester; Dr. Finlayson; Dr. Carpenter; Mr. Waine, Ipswich; Dr. Eberle; Mr. Reynolds; Mr. Palmer, Nayland; Mr. J. Hudson, Milton; Messrs. Colclough; Mr. N. Pearce, Shrewsbury; Mr. Horne, Waltham; Mr. Edwards, Sutton; Mr. Cheyne, Bedford; Mr. Olding, Petersfield; Dr. Manley, Freetown; Mr. Hart, Kensington; Mr. H. D. Wood; Dr. Bell, Glasgow; Mr. J. C. Smith; Dr. Elder, Nottingham; Dr. Pitman; Mr. Purcell, Dublin; Mr. Ellis, Chester; Mr. Rowland, Richmond; Mr. Dennis, Bremen; Rev. J. Escreet, Hempstead; Surgeon-General Woodworth, Washington; Dr. Torrance, Newcastle-on-Tyne; Mr. Reynolds; Mr. Wilkinson; The Registrar-General of Births &c.; L.S.A.; An Occasional Correspondent; M.D.; G. A. G.; A Regular Subscriber; L.R.C.S.E.; A Country Practitioner; A Doctor's Wife; E. F.; H. T. B.; J. M. H. M.; A Plumber, Kensington; Harveian Society of London; The Medical Defence Association; Sano; B., Syston; A. E. R.; F. R. N.; F. D. B.; Inquirer; The Registrar-General of Edinburgh; F.R.C.S.; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from — Mr. Fisher, Birmingham; Mr. Gutteridge, Maldon; Messrs. Porteous and Co, Glasgow; Mr. Mevcer, London; Dr. Pratt, Cardiff; Mr. E. Holt, London; Mr. Shirtliff, Kingston-on-Thames; Mr. J. H. Smith, London; Mr. Owens, Chicago; Messrs. Christy and Co.; Mr. Rutherford, Shipley; Mr. Woodhouse, Preston; Dr. Davey, Colchester; Mr. Bryan; Mr. Harron; Mr. Hamilton; Mr. Speirs, Cleaton; Mr. Redmond; Mr. Jeffreys; Mr. Chapman; Mr. Ross, Alderney; Dr. Anderson, Cramlington; Dr. Davies, Ebbw Vale; Mr. Dunning, Wincanton; Sir J. Fayrer; B. Birmingham; J. G. L., Bristol; Alpha, Wednesbury; Medicus, Preston; Alpha; Medicus, Sheffield; F.R.C.S.; H S.; J., Leamington; L. M., Greenwich; G. W. T.; A. B., Swansea; X. Y. Z., Roslin; J. S., Portrush; Delta, Colchester; Alpha, Cardiff; Solus; J. P., Cardiff; R. H., Birmingham; Surgeon, Southwark; L. N. O.

Animal World, Erasl, Shield, Scarborough Gazette, Glasgow News, Ross Gazette, Church of England Temperance Chronicle, Blyth Weekly News, Camden and Kentish Town Gazette, Holborn Guardian, &c., have been received.

Medical Diary for the ensuing Week.

Monday, March 17.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS. — Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES, AND COMMERCE.—8 P.M. Cantor Lectures: Dr. W. H. Corfield, "On Dwelling Houses: their Sanitary Construction and Arrangements."
MEDICAL SOCIETY OF LONDON. — 8½ P.M. Mr. Edmund Owen, "On a Case of Strangulated Inguinal Hernia; Reduction *en masse*; Operation; Recovery."—Mr. W. F. Teevan, "On the Diagnosis and Treatment of Impacted Urethral Calculus."

Tuesday, March 18.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION. — 3 P.M. Professor E. A. Schäfer, "On Animal Development."
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following Specimens will be shown:—Abscess of the Liver; Piedra; Lardaceous Disease in reference to its Anatomical Distribution and Pathological Relations; and other Specimens.

Wednesday, March 19.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN. — Operations, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Croonian Lectures: Dr. W. H. Stone, "On some Applications of Physics to Medicine."
ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY. — 8½ P.M. Mr. Francis Fox, "On Cysts of the Mouth."

Thursday, March 20.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Professor Tyndall, "On Sound, including its recent Applications and Methods of Reproduction."
HARVEIAN SOCIETY.—8½ P.M. Dr. Broadbent: "Cases of Mitral Stenosis." Mr. Malcolm Morris, "On some of the rarer Affections of the Hair."

Friday, March 21.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Flower, "On the Comparative Anatomy of Man."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Croonian Lectures: Dr. W. H. Stone, "On some Applications of Physics to Medicine."
ROYAL INSTITUTION.—9 P.M. Professor Abel: "Recent Contributions to the History of Detonating Agents."

Saturday, March 22.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. F. Seymour Haden, "On Etching."

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